ARDAMATSKAYA, T.B.

Snakes as exterminators of birds nesting in the hollows of trees. Trudy Probl. i tem. sov. no.9:338-341. '60. (MIRA 13:9)

1. Chernomorskiy gosudarstvennyy zapovednik.
(Black Sea Preserve--Birds, protection of)
(Serpents)

ARDAMATSKAYA, T.B.

Traveling nest. Priroda 50 no.5:116-117 My '61. (MIRA 14:5)

1. Chernomorskiy goszapovednik (Golaya pristan', Khersonskaya obl.).
(Birds—Eggs and nests)

ARDAMATSKAYA, T.B.

Red-breasted merganser in the northwestern Black Sea region.
Ornitologiia no.6:293-302 '63. (MIRA 17:6)

ARDAMATSKIY, N.A.; MILOSLAVSKIY, Ya.M.; LIKHVANTSEV, V.A.; LEGKUN, A.M.; TYUNINA, Ye.A.

Comparative evaluation of the results of studying the content of sodium and potassium in the plasma, whole blood and erythrocytes in some internal diseases. Terap.arkh. 34 no.2:81-85 '62. (MIRA 15:3)

1. Iz kafedry fakul'tetskoy terapii (i. o. zav. - dotsent N.A. Ardamatskiy) Ryazanskogo meditsinskogo instituta imeni akad. I.P. Pavlova.

(SODIUM IN THE BODY) (POTASSIUM IN THE BODY)
(BLOOD—EXAMINATION)

MILOSLAVSKIY, Ya.I.; ARDAMATSKIY, N.A.; IVANOV, Yu.V.; LIKHVANTSEV, V.A.; LEGKUN, A.M.; MASLENNIKOVA, A.I.; CHERNYSHEVA, M.I.; TYUNINA, Ye.A.; SHOLOKHOVA, G.I. (Ryazan')

Urinary excretion of 17-ketosteroids and 17-hydroxy corticosteroids in healthy people. Probl. endok. i gorm. 9 no.3:76-80 My-Je '63. (MIRA 17:1)

1. Iz kafedry fakul'tetskoy terapii (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent N.A. Ardamatskiy) Ryazanskogo meditsinskogo instituta imeni I.P. Pavlova.

MILOSLAVSKIY, Ya.M.; ARDAMATSKIY, N.A. (Ryazan')

Urinary excretion of tetrahydroxy derivatives of corticosteroids in healthy persons based on paper chromatography data. Probl. endok. i gorm. 9 no.5:62-66 S-O'63 (MIRA 16:12)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. I.B. Likhtsiyer) Ryazanskogo meditsinskogo instituta imeni akademika I.P.Pavlova.

ARDAMATSKIY, N.A. (Ryazan')

Mechanism of the action of mercury diuretics in rheumatic heart defects. Nauch. trudy Riaz. med. inst. 14:215-221 '63. (MIRA 17:5)

ARDAMATSKIY, N.A. (Ryazan')

Some indices of the functional state of the adrenal cortex in patients with rheumatic heart defects and circulation insufficiency. Nauch. trudy. Riaz. med. inst. 14:181-189 '63.

Adenosinetriphosphoric acid deficiency in the myocardium of patients with rheumatic heart defects and circulation insufficiency. Ibid.:190-194 '63. (MIRA 17:5)

. ARDANSKIY, A., inzh.

Recommended building tools. Sel'. stroi. 9 no.3:10-12 My-Je '54.
(MIRA 13:2)
(Building--Tools and implements)

ARDAMATSKIY, N.A.; LIKHVANTSEV, V.A.; MASLENNIKOVA, A.I.; TYUNINA, Ye.A.

Functional indices of the adrenal cortex before and after administration of ACTH in some internal diseases. Vrach. delo no.4: 140 Ap'63. (MIRA 16:7)

1. Kafedra fakul'tetskoy terapii (ispolnyayushchiy obyazannosti zav.-dotsent N.A.Ardamatskiy) Ryazanskogo meditsinskogo instituta.
(ADRENAL CORTEX) (ACTH)

ARDASHNOV, N., podpolkovnik.

Captain Popov, military engineer. Voen.-inzh. zhur. 101 no.10:29-31 O '57. (MLRA 10:11)

(Popov, Stepan Ivanovich)

ARDASENOV, N., podpolkovnik

Work experience of a company commander in planning tactical and political training. Voen.-inzh.zhur. 101 no.12:9-10 D '57.
(Military education)

SAMOYLOVICH, D. N. BARINOVA, Ye. S., and ARDASHEV (fnu)

"On the possibility of change of sensitivity of nuclear emulsion during irradiation"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West Germany, 3-8 Sep 62

ARDASHEV (fnu), BARINOVA, Ye.S., SAMOYLOVICH, D.M., RYABOV, V.D., and YUKHNOVSKAYA, O.P.

"On the chemical ripening of the R emulsion"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West Germany, 3-8 Sep 62

ARDASHEV, B.I.; TERTOV, B.A.

Certain problems of quinoline chemistry. Uch.zap.RGU no.60:191-205 '59. (MIRA 14:10)

(Quinoline)

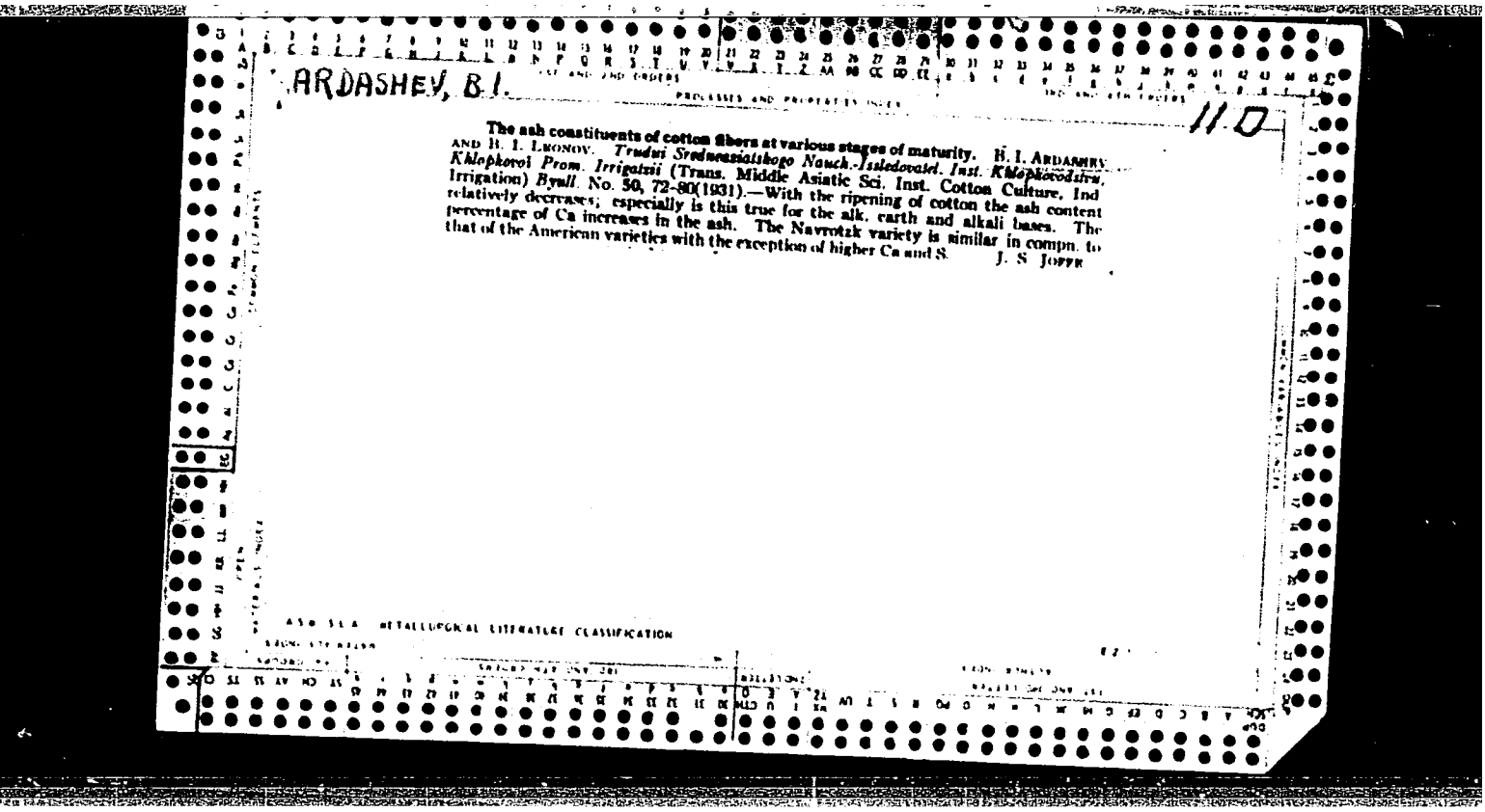
ARDASHEV, A.B.; MIZROKH, L.I., nachal'nik planovogo otdela tresta.

For effective organization of construction work. Gor.khoz. Mosk. 29 no.12:9-11 D '55. (MLRA 9:3)

1. Upravlyayushchiy trestom "Moszhilgoststroy" (for Ardashev). (Moscow--Construction industry)

ARDASHEV, A.I. (Rostov-na-Donu)

Mechanism of the synthesis of quinolines. Usp.khim. 23 no.1:45-61 '54.
(MLRA 7:1)
(Quinoline)

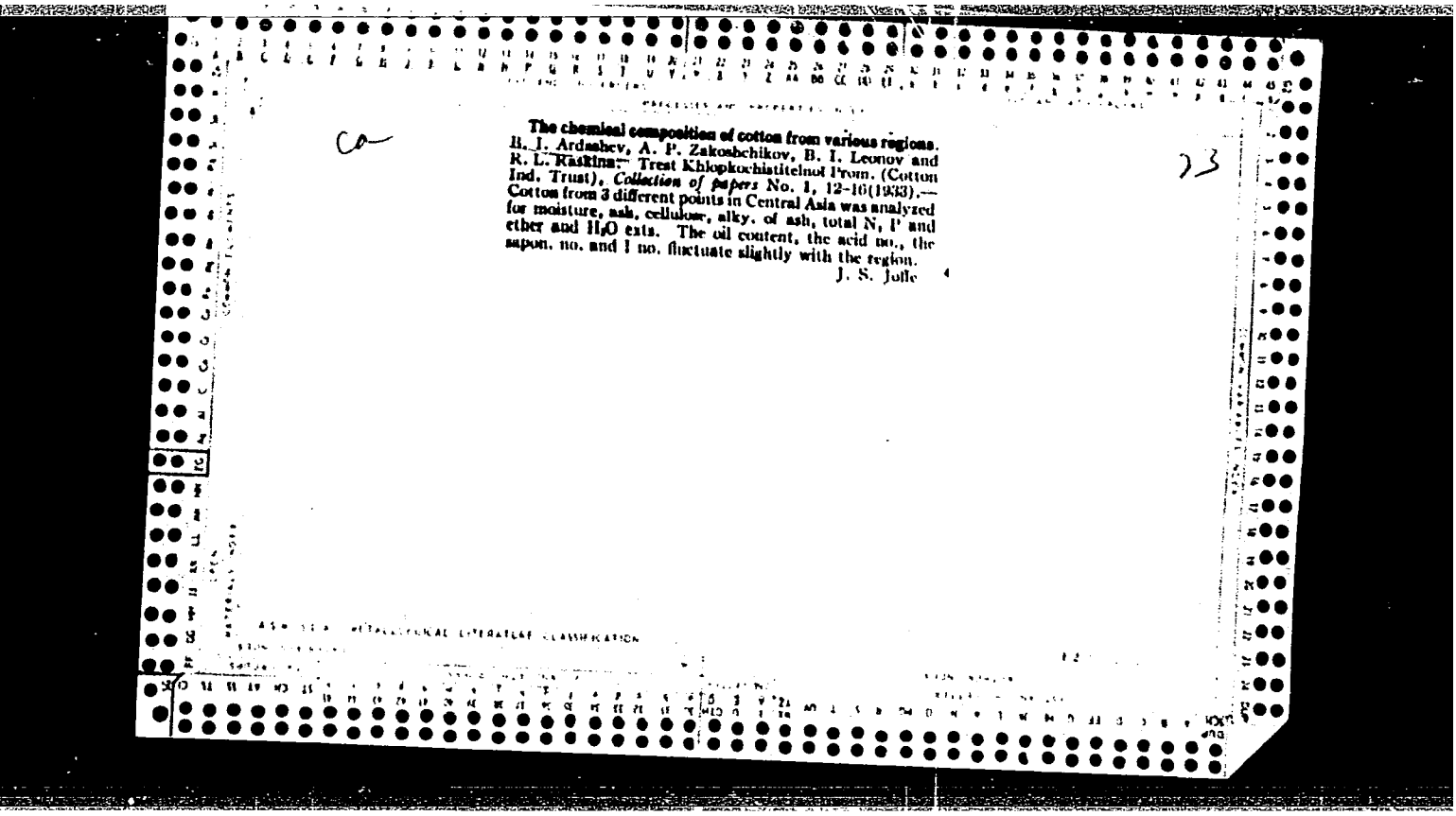


ARDASHEV, B.I.

11-0

The ash constituents of cotton fibers at various stages of maturity. B. I. ARDASHEV AND B. I. LEONOV. *Trudui Sredneaziatskogo Nauch.-Issledovatel. Inst. Khlopkovoi Prom. Irrigatsii* (Trans. Middle Asiatic Sci. Inst. Cotton Culture, Ind Irrigation) *Byull.* No. 50, 72-80(1931).—With the ripening of cotton the ash content relatively decreases; especially is this true for the alk. earth and alkali bases. The percentage of Ca increases in the ash. The Navrotzk variety is similar in compn. to that of the American varieties with the exception of higher Ca and S. J. S. JOFFE

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION



Co

The chemical composition of cotton from various regions. B. I. Ardashev, A. P. Zakosbchikov, B. I. Leonov and R. L. Raskina. Trest Khlopkovchistitelnoi Prom. (Cotton Ind. Trust), *Collection of papers* No. 1, 12-16(1933).—Cotton from 3 different points in Central Asia was analyzed for moisture, ash, cellulose, alky. of ash, total N, P and ether and H_2O exts. The oil content, the acid no., the sapon. no. and I no. fluctuate slightly with the region.

J. S. Joffe

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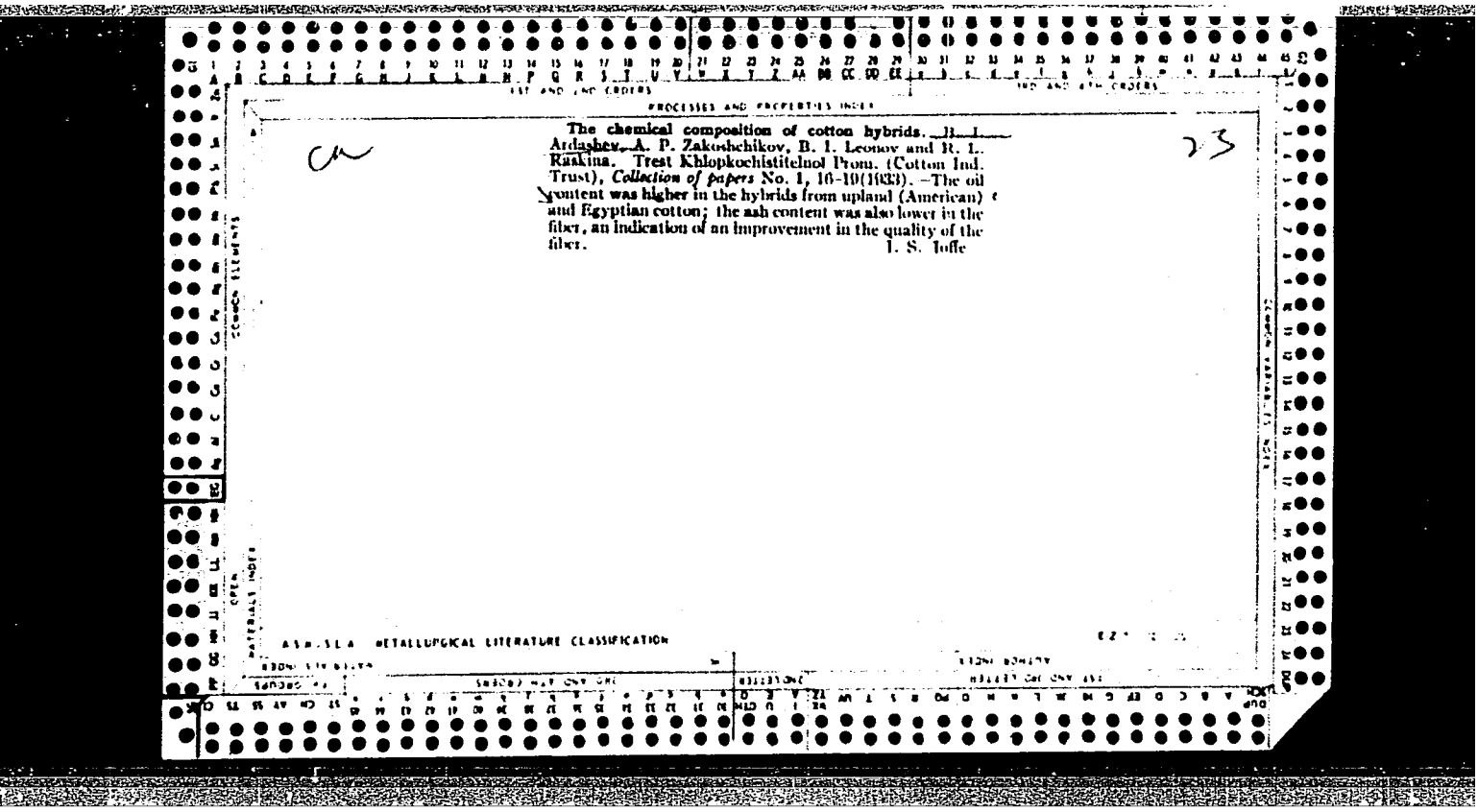

PROCESSES AND PROPERTIES INDEX

The chemical composition of cotton hybrids. II. I Ardashev, A. P. Zakoshchikov, B. I. Leonov and R. L. Rudkina. Trest Khlopkochistitelnoi Prom. (Cotton Ind. Trust), *Collection of papers* No. 1, 16-19(1933). —The oil content was higher in the hybrids from upland (American) and Egyptian cotton; the ash content was also lower in the fiber, an indication of an improvement in the quality of the fiber. I. S. Joffe

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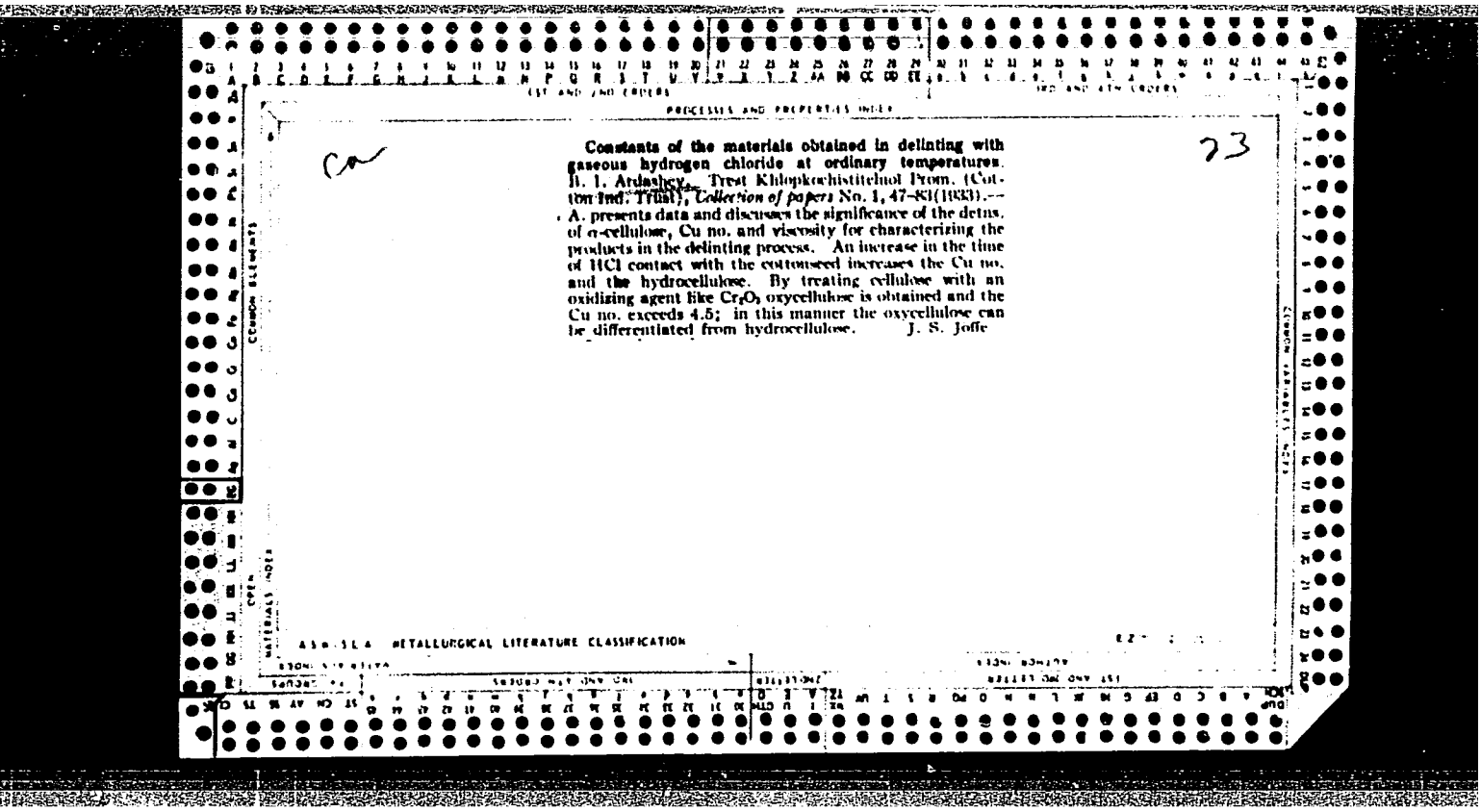
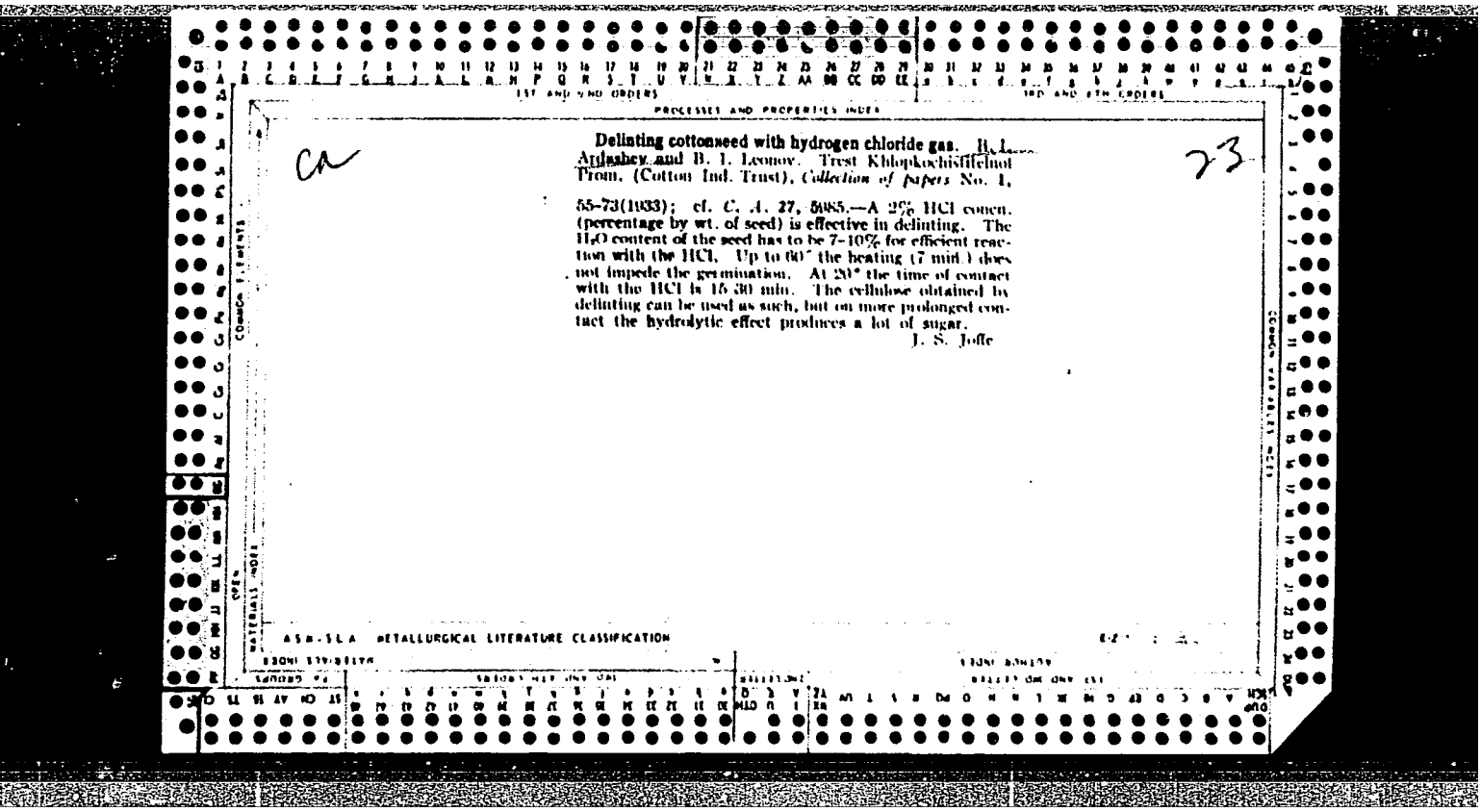
METALLURGICAL LITERATURE CLASSIFICATION



Constants of the materials obtained in delinting with gaseous hydrogen chloride at ordinary temperatures. B. I. Ardashev. Trest Khlopkochistitelnoi Prom. (Cotton Ind. Trust), *Collection of papers* No. 1, 47–81(1933).—A. presents data and discusses the significance of the detns. of α-cellulose, Cu no. and viscosity for characterizing the products in the delinting process. An increase in the time of HCl contact with the cottonseed increases the Cu no. and the hydrocellulose. By treating cellulose with an oxidizing agent like Cr_2O_3 oxycellulose is obtained and the Cu no. exceeds 4.5; in this manner the oxycellulose can be differentiated from hydrocellulose. J. S. Joffe



PROCESSES AND PROPERTIES INDEX

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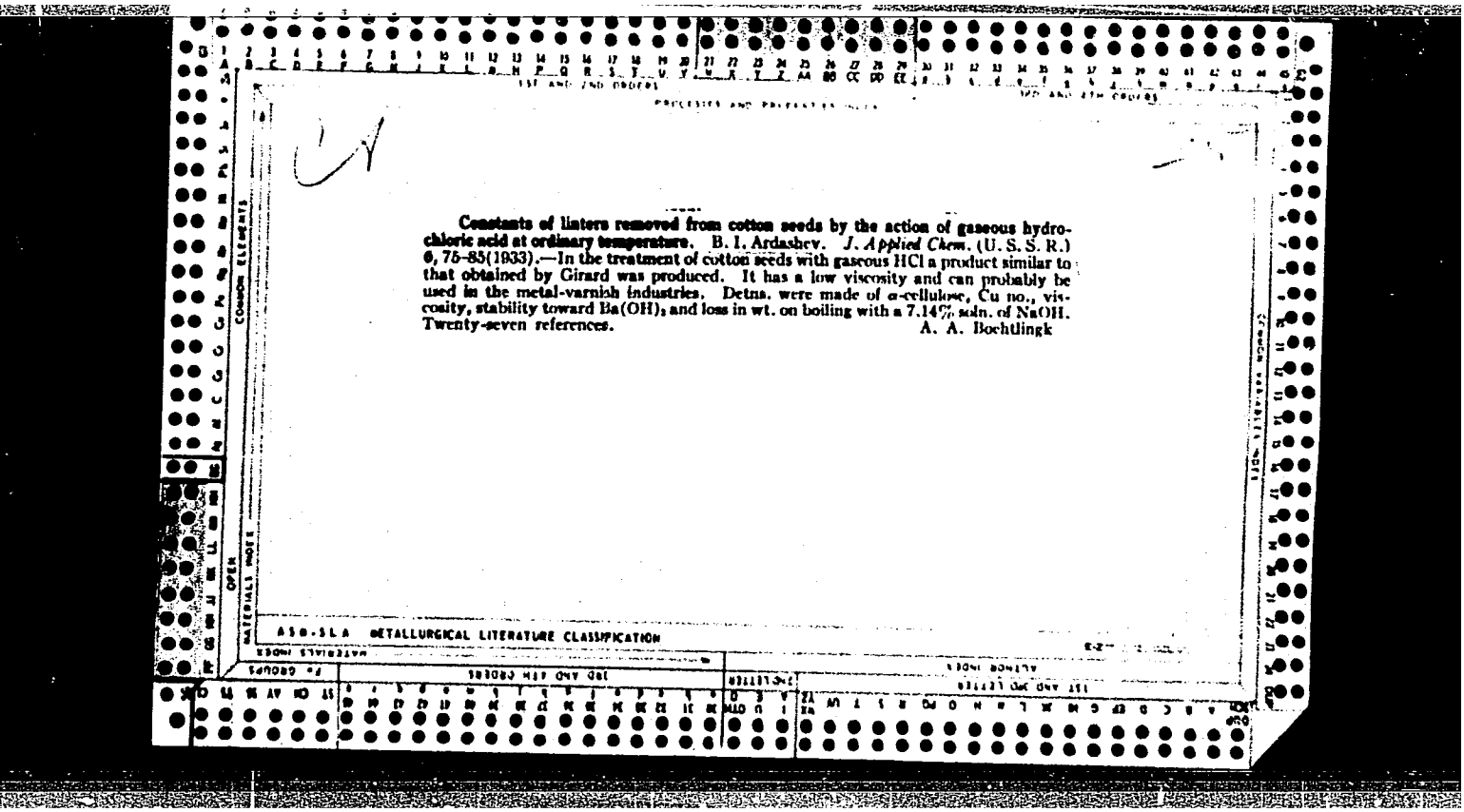
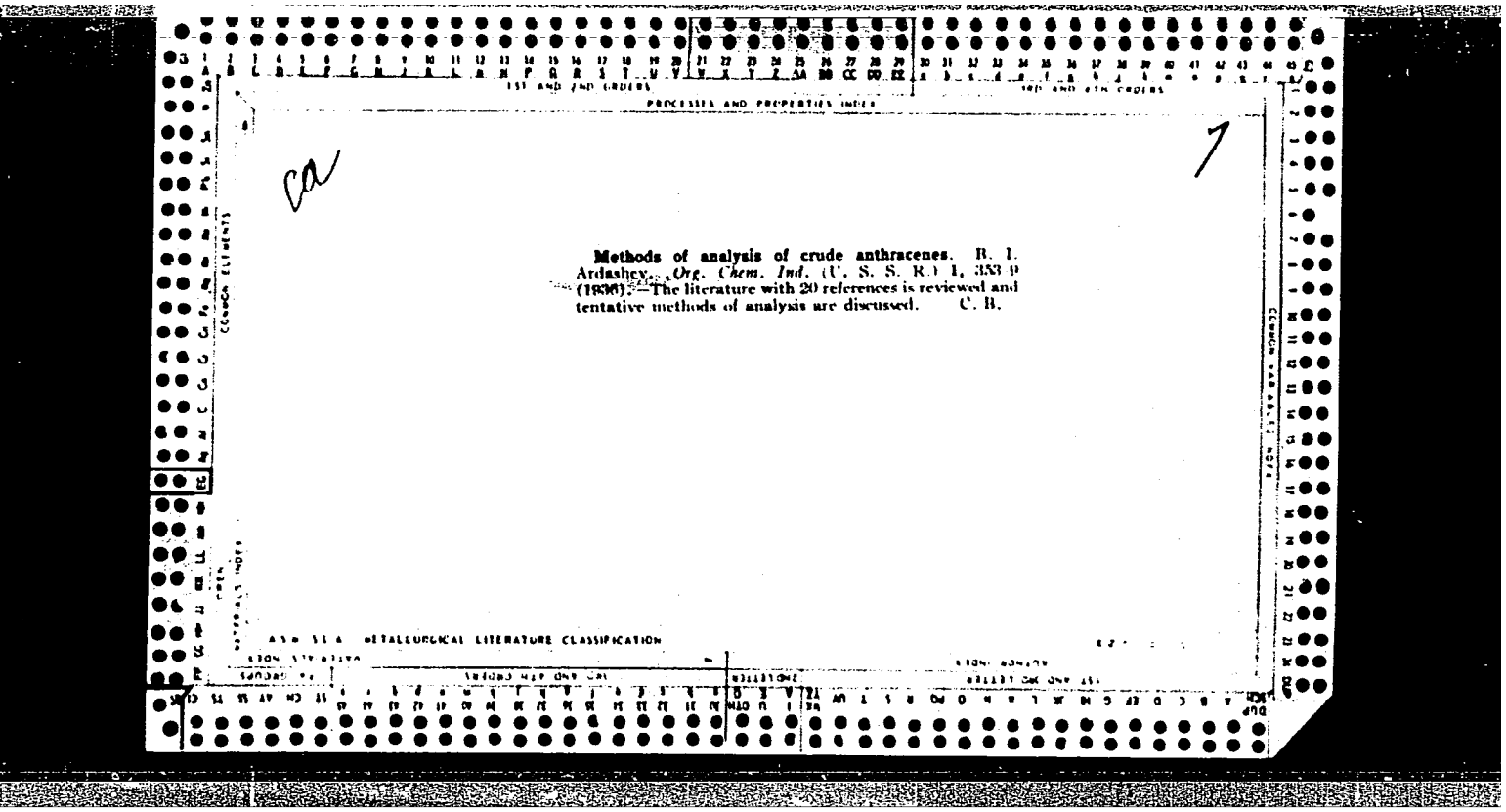
Delinting cottonseed with hydrogen chloride gas. B. I. Arlashev and B. I. Leonov. Trest Khlopkochistilfelnot Prom. (Cotton Ind. Trust), *Collection of papers* No. 1, 55–73(1933); cf. *C. A.* **27**, 5085.—A 2% HCl concn. (percentage by wt. of seed) is effective in delinting. The H_2O content of the seed has to be 7–10% for efficient reaction with the HCl. Up to 60° the heating (7 min.) does not impede the germination. At 20° the time of contact with the HCl is 15–30 min. The cellulose obtained by delinting can be used as such, but on more prolonged contact the hydrolytic effect produces a lot of sugar.

J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Constants of linters removed from cotton seeds by the action of gaseous hydrochloric acid at ordinary temperature. B. I. Ardashev. *J. Applied Chem.* (U. S. S. R.) 6, 75–85(1933).—In the treatment of cotton seeds with gaseous HCl a product similar to that obtained by Girard was produced. It has a low viscosity and can probably be used in the metal-varnish industries. Detns. were made of α-cellulose, Cu no., viscosity, stability toward Ba(OH)$_2$ and loss in wt. on boiling with a 7.14% soln. of NaOH. Twenty-seven references. A. A. Bochtlingk



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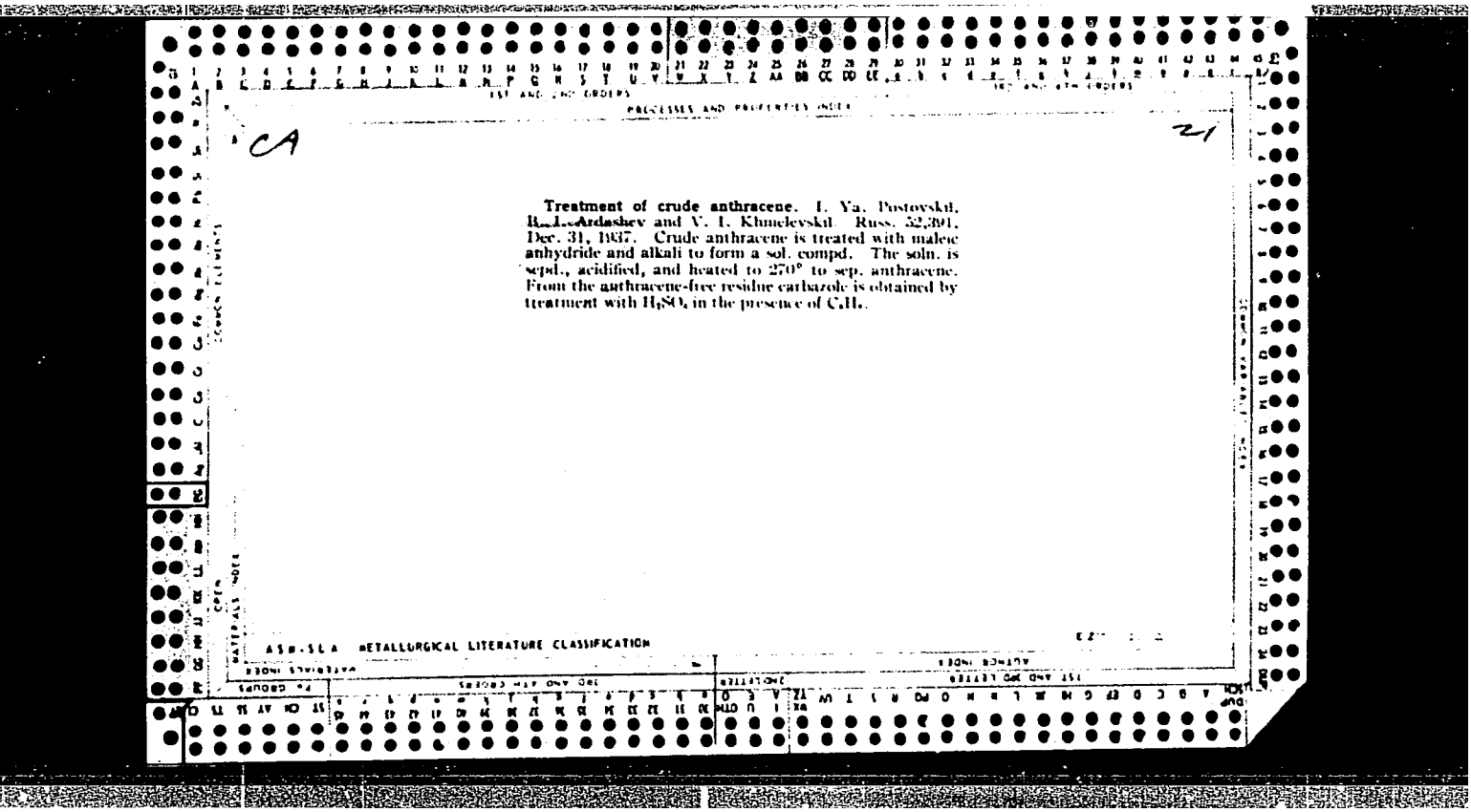
7

Methods of analysis of crude anthracenes. R. I. Ardashev. *Org. Chem. Ind.* (U. S. S. R.) 1, 353-9 (1936).—The literature with 20 references is reviewed and tentative methods of analysis are discussed. C. B.



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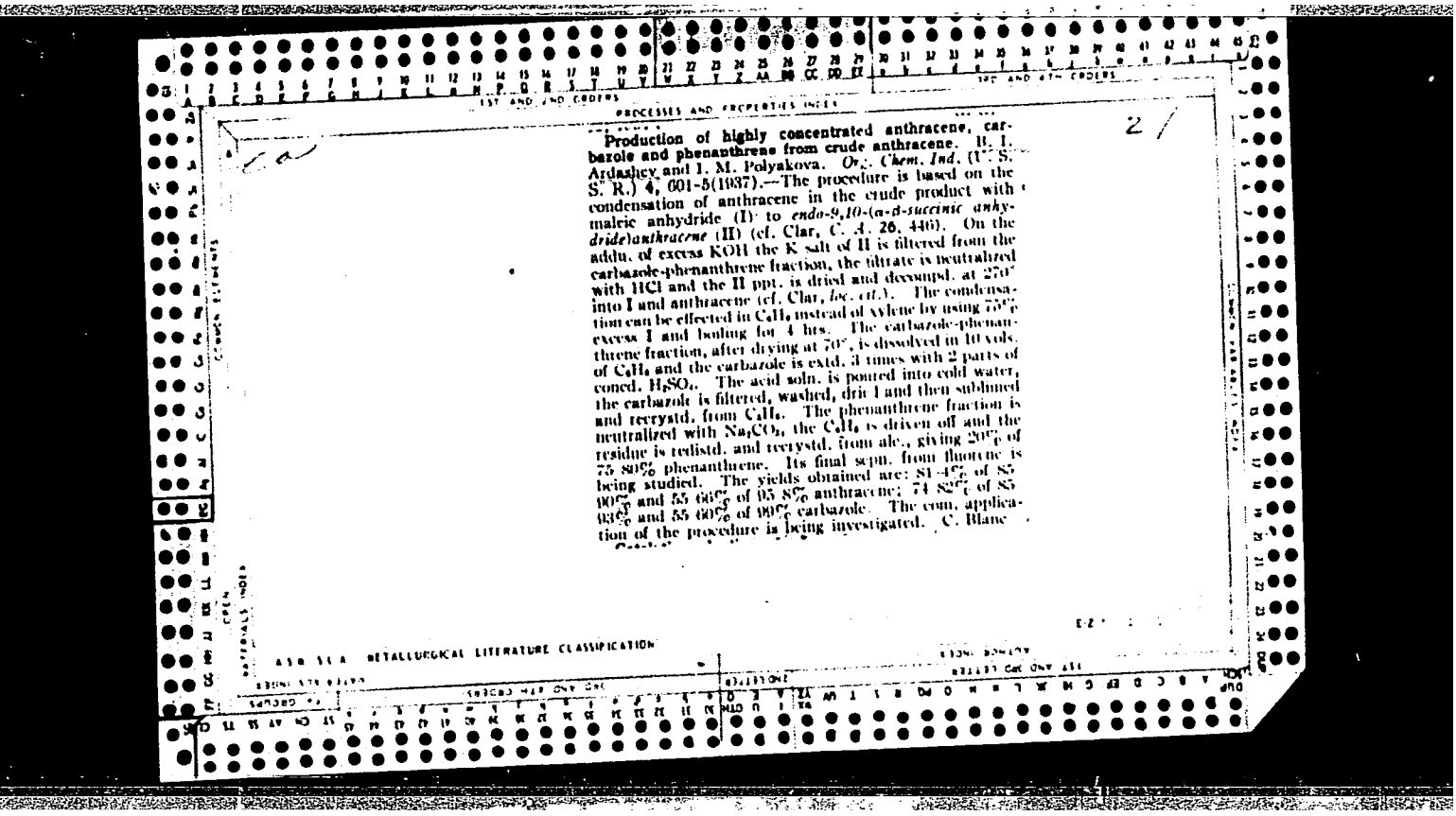
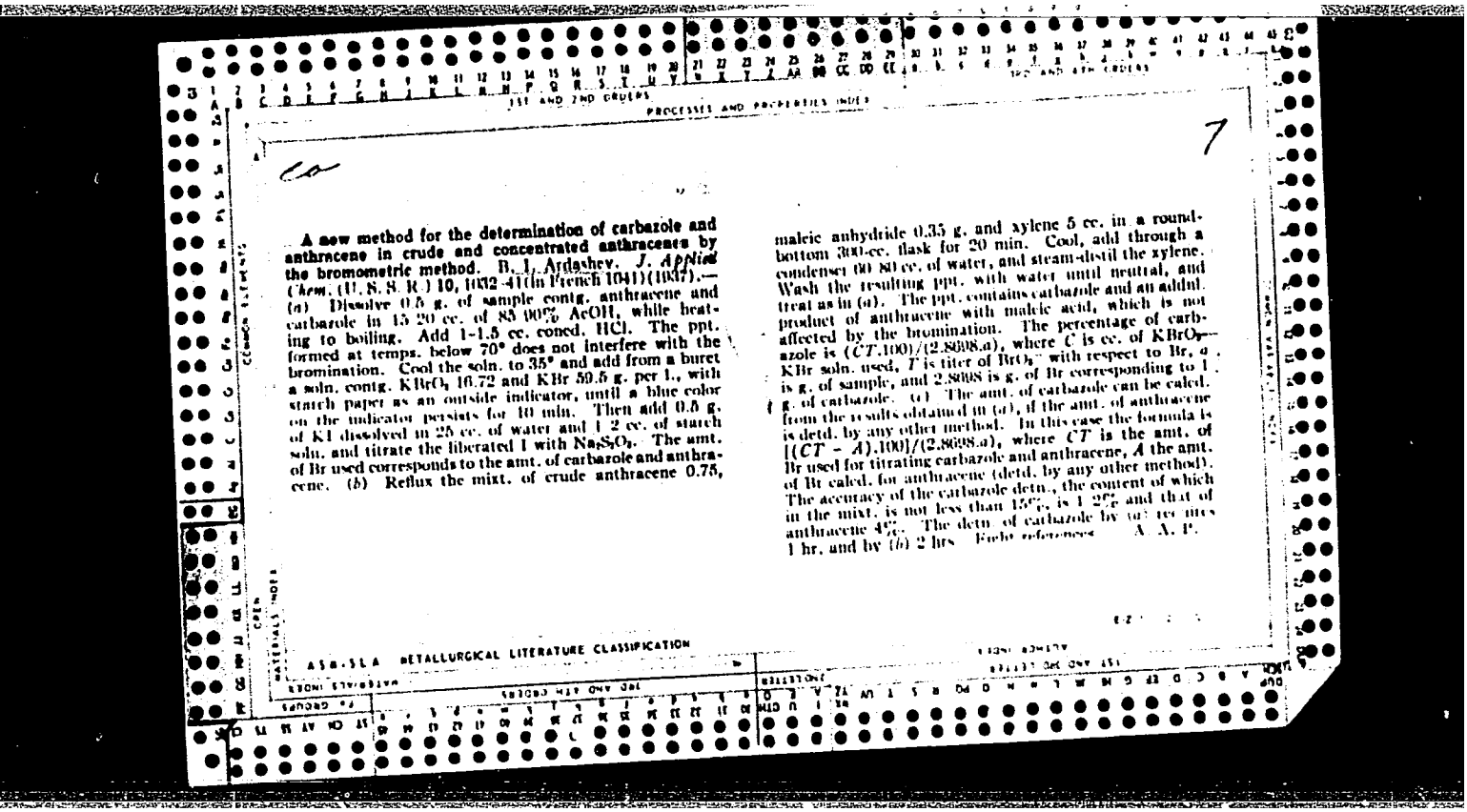
Treatment of crude anthracene. I. Ya. Postovskii, B. I. Ardashev and V. I. Khmelevskii. Russ. 52,391, Dec. 31, 1937. Crude anthracene is treated with maleic anhydride and alkali to form a sol. compd. The soln. is sepd., acidified, and heated to 270° to sep. anthracene. From the anthracene-free residue carbazole is obtained by treatment with H_2SO_4 in the presence of C_6H_6.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

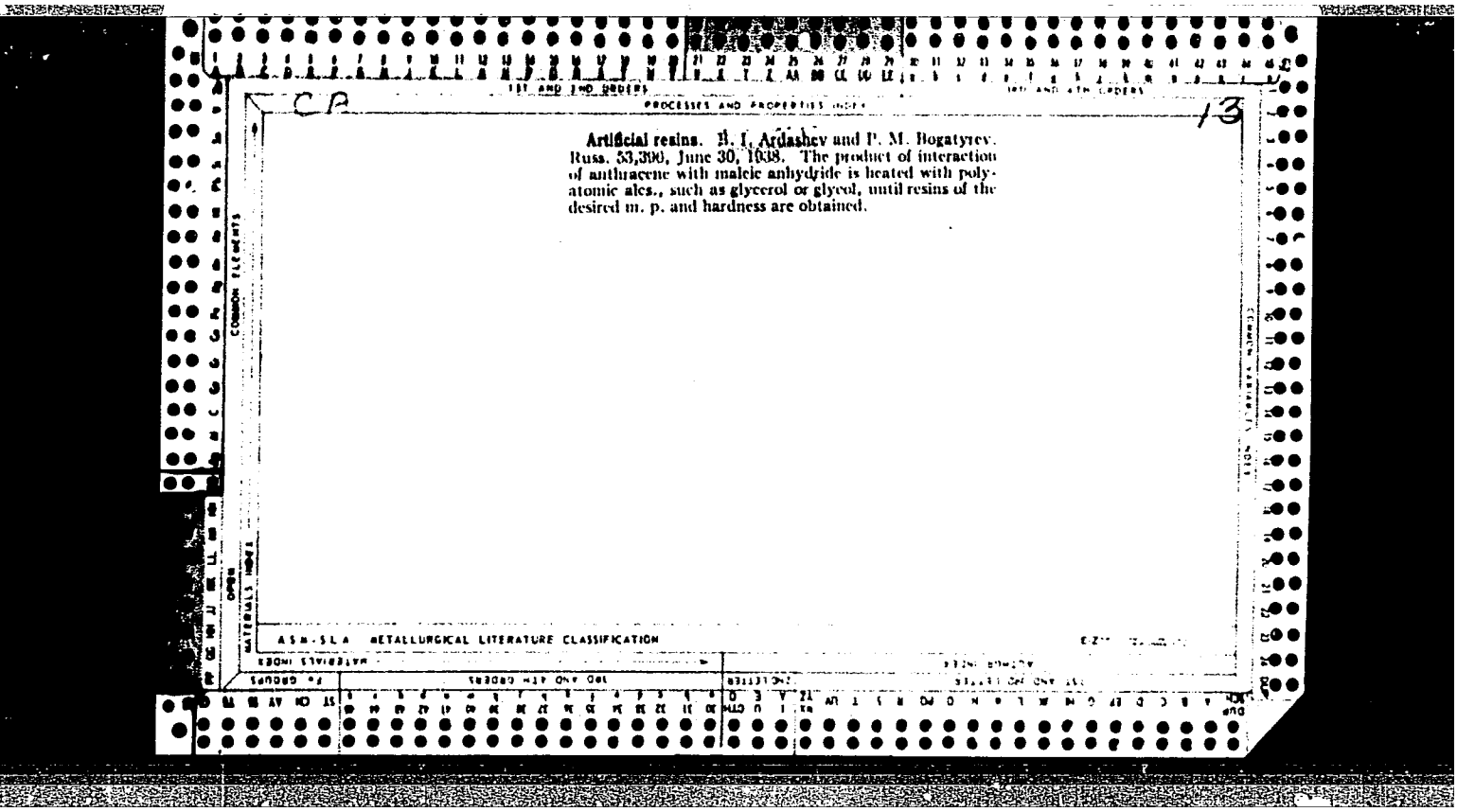


PROCESSES AND PROPERTIES INDEX

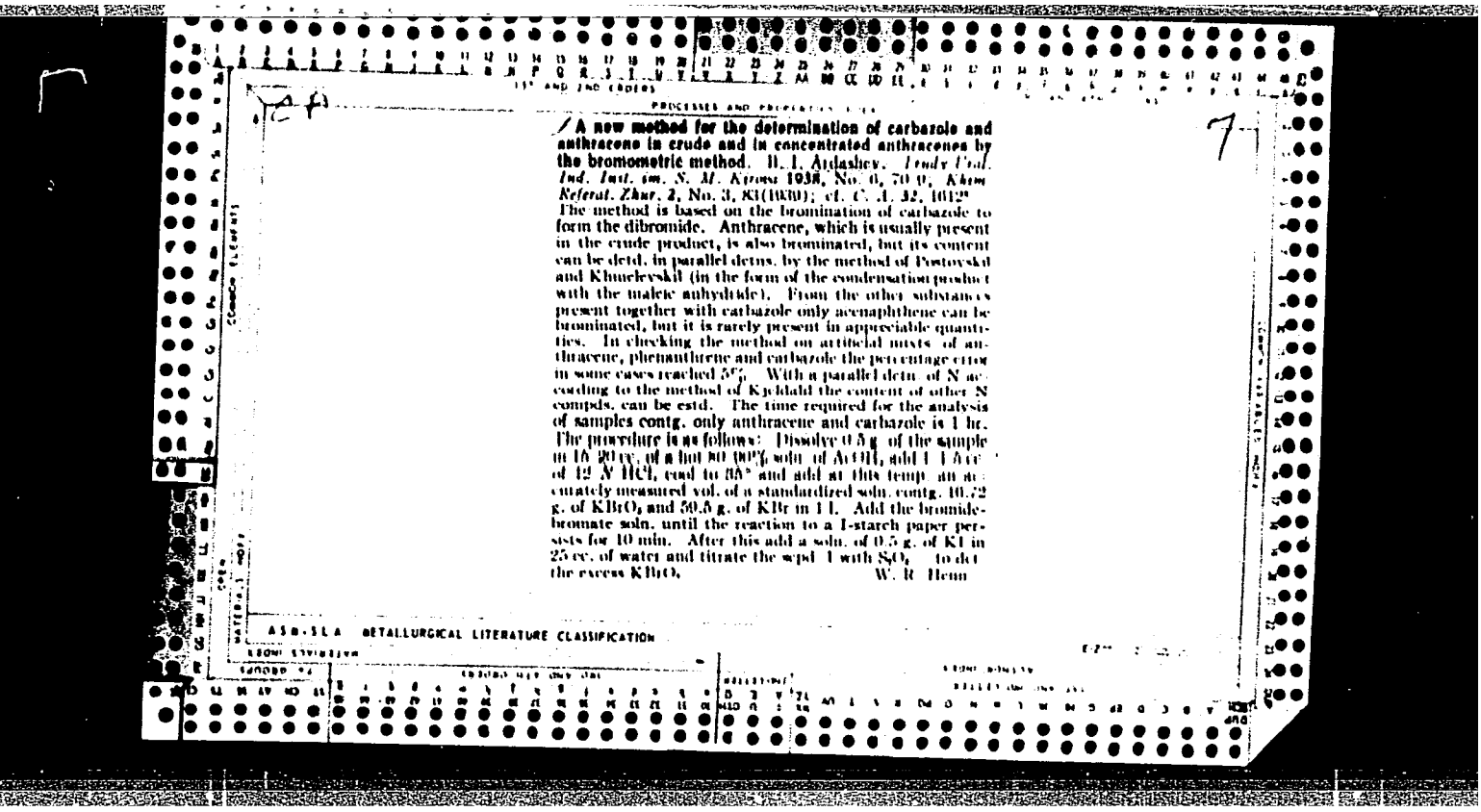
Production of highly concentrated anthracene, carbazole and phenanthrene from crude anthracene. B. I. Ardashev and I. M. Polyakova. *Org. Chem. Ind.* (U. S. S. R.) 4, 601-5(1937).—The procedure is based on the condensation of anthracene in the crude product with maleic anhydride (I) to *endo-9,10-(α-β-succinic anhydride)anthracene* (II) (cf. Clar, C. A. 26, 446). On the addn. of excess KOH the K salt of II is filtered from the carbazole-phenanthrene fraction, the filtrate is neutralized with HCl and the II ppt. is dried and decompd. at 270° into I and anthracene (cf. Clar, *loc. cit.*). The condensation can be effected in C_6H_6 instead of xylene by using 75° excess I and boiling for 4 hrs. The carbazole-phenanthrene fraction, after drying at 70°, is dissolved in 10 vols. of C_6H_6 and the carbazole is extd. 3 times with 2 parts of concd. H_2SO_4. The acid soln. is poured into cold water, the carbazole is filtered, washed, dried and then sublimed and recrystd. from C_6H_6. The phenanthrene fraction is neutralized with Na_2CO_3, the C_6H_6 is driven off and the residue is redistd. and recrystd. from alc., giving 20% of 75-80% phenanthrene. Its final soln. from fluorene is being studied. The yields obtained are: 81-4% of 85-90% and 55-66% of 95-8% anthracene; 74-82% of 85-93% and 55-60% of 90% carbazole. The com. application of the procedure is being investigated. C. Blanc



A new method for the determination of carbazole and anthracene in crude and concentrated anthracenes by the bromometric method. B. I. Ardashev. *J. Applied Chem.* (U. S. S. R.) **10**, 1632-41 (in French 1641) (1937).—(*a*) Dissolve 0.5 g. of sample contg. anthracene and carbazole in 15-20 cc. of 85-90% AcOH, while heating to boiling. Add 1-1.5 cc. concd. HCl. The ppt. formed at temps. below 70° does not interfere with the bromination. Cool the soln. to 35° and add from a buret a soln. contg. $KBrO_3$ 16.72 and KBr 59.5 g. per l., with starch paper as an outside indicator, until a blue color on the indicator persists for 10 min. Then add 0.5 g. of KI dissolved in 25 cc. of water and 1-2 cc. of starch soln. and titrate the liberated I with $Na_2S_2O_3$. The amt. of Br used corresponds to the amt. of carbazole and anthracene. (*b*) Reflux the mixt. of crude anthracene 0.75, maleic anhydride 0.35 g. and xylene 5 cc. in a round-bottom 300-cc. flask for 20 min. Cool, add through a condenser 60-80 cc. of water, and steam-distil the xylene. Wash the resulting ppt. with water until neutral, and treat as in (*a*). The ppt. contains carbazole and an addnl. product of anthracene with maleic acid, which is not affected by the bromination. The percentage of carbazole is $(CT.100)/(2.8698.a)$, where C is cc. of $KBrO_3$—KBr soln. used, T is titer of BrO_3^- with respect to Br, a is g. of sample, and 2.8698 is g. of Br corresponding to 1 g. of carbazole. (*c*) The amt. of carbazole can be calcd. from the results obtained in (*a*), if the amt. of anthracene is detd. by any other method. In this case the formula is $[(CT - A).100]/(2.8698.a)$, where CT is the amt. of Br used for titrating carbazole and anthracene, A the amt. of Br calcd. for anthracene (detd. by any other method). The accuracy of the carbazole detn., the content of which in the mixt. is not less than 15%, is 1-2% and that of anthracene 4%. The detn. of carbazole by (*a*) requires 1 hr. and by (*b*) 2 hrs. Eight references. A. A. P.



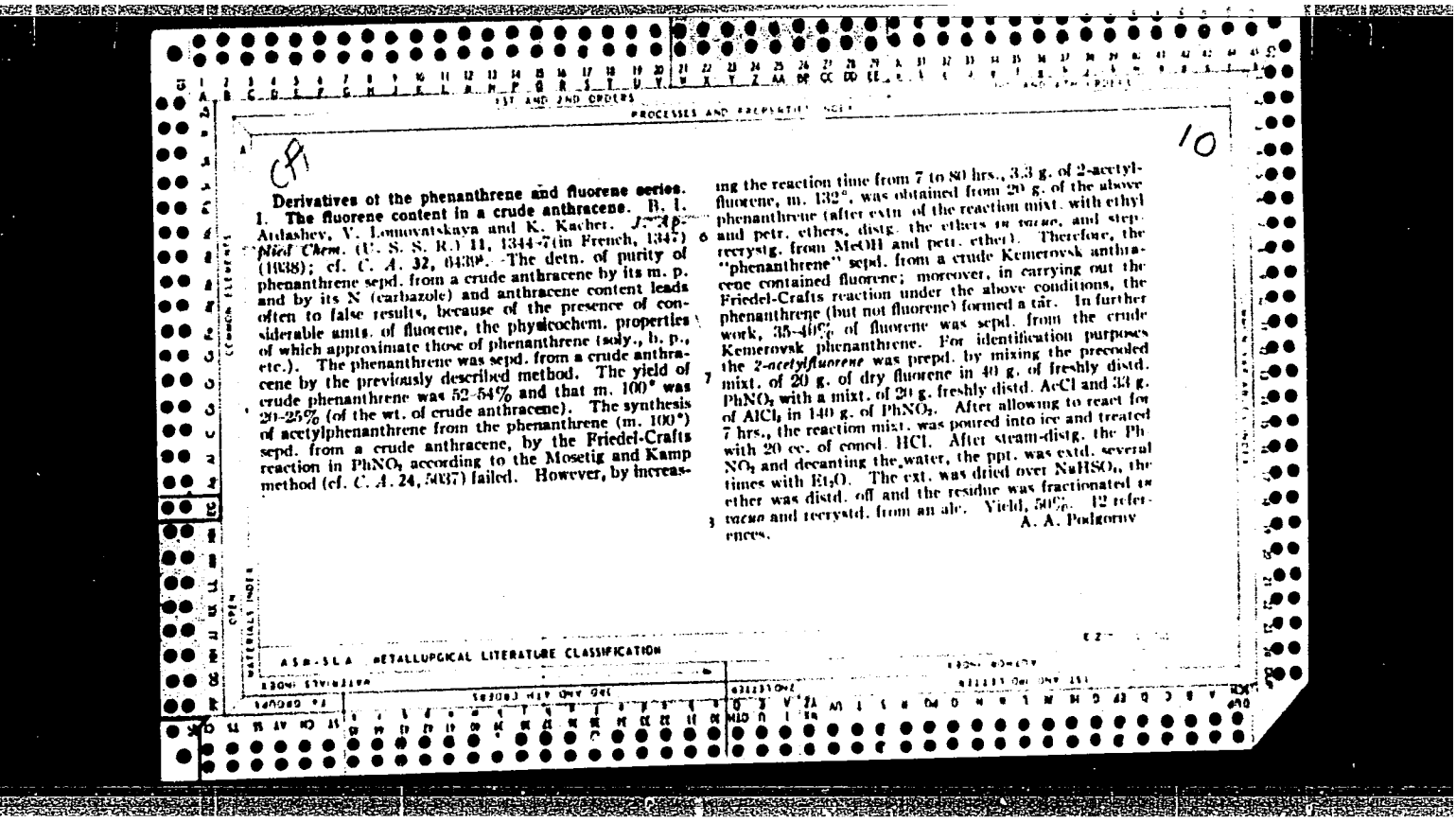
Artificial resins. B. I. Ardashev and P. M. Bogatyrev. Russ. 53,390, June 30, 1938. The product of interaction of anthracene with maleic anhydride is heated with polyatomic alcs., such as glycerol or glycol, until resins of the desired m. p. and hardness are obtained.



A new method for the determination of carbazole and anthracene in crude and in concentrated anthracenes by the bromometric method. B. I. Ardashev. *Trudy Ural. Ind. Inst. im. S. M. Kirova* **1938**, No. 6, 70-9; *Khim. Referat. Zhur.* **2**, No. 3, 83(1939); cf. C. A. **32**, 1012[9]. The method is based on the bromination of carbazole to form the dibromide. Anthracene, which is usually present in the crude product, is also brominated, but its content can be detd. in parallel detns. by the method of Pestovskii and Khmelevskii (in the form of the condensation product with the maleic anhydride). From the other substances present together with carbazole only acenaphthene can be brominated, but it is rarely present in appreciable quantities. In checking the method on artificial mixts. of anthracene, phenanthrene and carbazole the percentage error in some cases reached 5%. With a parallel detn. of N according to the method of Kjeldahl the content of other N compds. can be estd. The time required for the analysis of samples contg. only anthracene and carbazole is 1 hr. The procedure is as follows: Dissolve 0.5 g. of the sample in 10-20 cc. of a hot 80-90% soln. of AcOH, add 1-1.5 cc. of 12 *N* HCl, cool to 30° and add at this temp. an accurately measured vol. of a standardized soln. contg. 10.72 g. of $KBrO_3$ and 50.5 g. of KBr in 1 l. Add the bromide-bromate soln. until the reaction to a I-starch paper persists for 10 min. After this add a soln. of 0.5 g. of KI in 25 cc. of water and titrate the sepd. I with $Na_2S_2O_3$ to det. the excess $KBrO_3$.

W. R. Henn

A58-51A METALLURGICAL LITERATURE CLASSIFICATION



Derivatives of the phenanthrene and fluorene series.
1. **The fluorene content in a crude anthracene.** B. I. Arbuzov, V. Lomovatskaya and K. Kacher. *J. Gen. Chem.* (U. S. S. R.) 11, 1344-7 (in French, 1347) (1938); cf. C. *A.* 32, 6439⁹. The detn. of purity of phenanthrene sepd. from a crude anthracene by its m. p. and by its N (carbazole) and anthracene content leads often to false results, because of the presence of considerable amts. of fluorene, the physicochem. properties of which approximate those of phenanthrene (soly., b. p., etc.). The phenanthrene was sepd. from a crude anthracene by the previously described method. The yield of crude phenanthrene was 52–54% and that m. 100° was 20–25% (of the wt. of crude anthracene). The synthesis of acetylphenanthrene from the phenanthrene (m. 100°) reaction in $PhNO_2$ according to the Mosetig and Kamp method (cf. C. *A.* 24, 5037) failed. However, by increasing the reaction time from 7 to 80 hrs., 3.3 g. of 2-acetylfluorene, m. 132°, was obtained from 20 g. of the above phenanthrene (after extn. of the reaction mixt. with ethyl and petr. ethers, distg. the ethers *in vacuo*, and step- recrystg. from MeOH and petr. ether). Therefore, the "phenanthrene" sepd. from a crude Kemerovsk anthracene contained fluorene; moreover, in carrying out the Friedel-Crafts reaction under the above conditions, the phenanthrene (but not fluorene) formed a tar. In further work, 35–40% of fluorene was sepd. from the crude Kemerovsk phenanthrene. For identification purposes the *2-acetylfluorene* was prepd. by mixing the precooled mixt. of 20 g. of dry fluorene in 40 g. of freshly distd. AcCl and 33 g. $PhNO_2$ with a mixt. of 20 g. freshly distd. AcCl and 33 g. of $AlCl_3$ in 140 g. of $PhNO_2$. After allowing to react for 7 hrs., the reaction mixt. was poured into ice and treated with 20 cc. of concd. HCl. After steam-distg. the Ph NO_2 and decanting the water, the ppt. was extd. several times with Et_2O. The ext. was dried over $NaHSO_4$, the ether was distd. off and the residue was fractionated *in vacuo* and recrystd. from an alc. Yield, 50%. 12 references.

A. A. Podgornv

ARDASHEV, B. I.

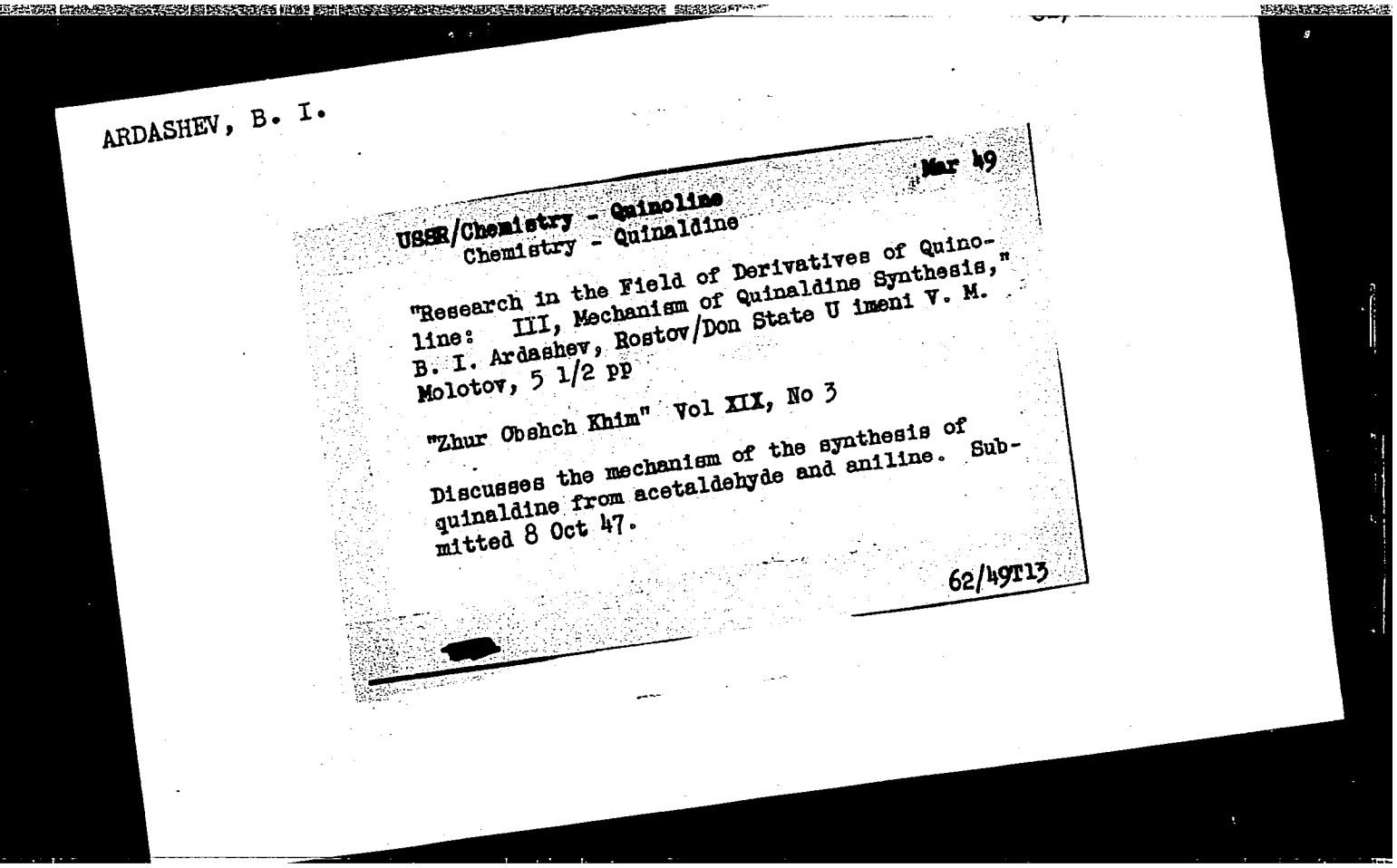
Reaction of α,β-unsaturated aldehydes with aromatic amines. I. The Skraup reaction mechanism. B. I. Ardashev (Novocherkassk Industrial Inst.). *J. Gen. Chem.* (U.S.S.R.) 16, 47-52(1946).—A review of the current ideas on the mechanism of the Skraup reaction is presented. A definite mechanism is proposed according to which polymerization products of allylideneaniline take part in the over-all reaction. Such polymerization products were isolated from the reaction mixt. under appropriate conditions. Although A. was unable to isolate compds. of the type $RNHCH_2CH:CHNHR$ from $PhNH_2$-acrolein reaction mixts., a product of this type was isolated in the reaction of Ph_2NH, while, in the case of $PhNH_2$, resins having the probable structure $—NPhCH:CHCH_2-NPhCH:CHCH_2—$ were obtained. Heating of acrolein-aniline (prepd. according to Mann, C.A. 17, 77) with H_2SO_4 failed to yield any quinoline. $PhNH_2$ (14 g.) was slowly treated in a CO_2 atm. with 8.1 g. acrolein which was distd. into the $PhNH_2$ by evapn. at 35–40°; the mixt. was heated to boiling for 1 hr., treated with alkali, and steam-distd.; no quinoline was detected. Addn. of 1 g. $PhNH_2$, H_2SO_4 to the reaction mixt. (followed by treatment as above) gave a trace of quinoline; addn. of 10 g. $PhNO_2$ resulted in isolation of but 0.1 g. quinoline picrate. $PhNH_2$ (15 g.) and 10 g. Ph_2O were treated slowly with 20 cc. concd. HCl, followed by 8.1 g. acrolein (as above) to yield 1.2 g. quinoline; the use of 15 cc. concd. H_2SO_4 gave 1.8 g. quinoline. A standard Skraup procedure was then run, using 15.5 g. $PhNH_2$, 10 g. $PhNO_2$, 30 g. glycerol, and 22.5 cc. H_2SO_4 to give 12.1 g. quinoline. The reaction residues in the above essentially neg. expts. were brown resins which, after soln. in benzene and repptn., m. 87–90°; distn. of the resin yielded almost 50% distillable matter up to 250°; no quinoline was detected in the distillate, nor [illegible] of the resin with H_2SO_4 result in its formation. However, the benzene-insol. fraction of the resin, dissolved in 15% HCl, filtered, and made alk. with NaOH, yielded variable amts. of quinoline only in expts. which gave detectable amts. of quinoline in the procedures given above.

II. Reaction of aniline with crotonaldehyde. B. I. Ardashev and M. N. Kurbatov. *Ibid.* 53–4.—Crotonaldehyde (7.4 g.) was treated at 0° with 9.8 g. $PhNH_2$ to give after 3 hrs. a sticky mass; stirring of this with Et_2O caused crystn. to a white solid, m. 102–4° (7.5 g., 49.7%). The filtration must be conducted rapidly to prevent resinification. The *crotonylideneaniline* so obtained is insol. in water, sol. in warm EtOH and dil. HCl (reppld. by NaOH). The reagents used must be absolutely pure and freshly distd. for successful prepn. of a cryst. product. Addn. of several drops of concd. HCl followed by distn. resulted in the formation of quinaldine. It is thus shown that formation of quinaldine by the Doebner-Miller method may proceed without intermediate formation of β-phenylaminobutyraldehyde. The resinous products obtained above may have structures analogous to those shown for $PhNH_2$ in Part I (above). G. M. K.

ARDASHEV, B.I.

Ardashev, B.I. "Synthesis of quinonyl substitutes from aromatic amines and ethylene glycol," (reference), Soobshch. o nauch. rabotakh chlenov Vsesoyuz. khim. o-va im. Mendeleyeva, 1948, Issue 2, p. 26-28

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949



ARDASHEV, B. I.

USSR/Chemistry - Quinoline
Chemistry - Quinaldine

Mar 49

"Research in the Field of Derivatives of Quinoline: III, Mechanism of Quinaldine Synthesis," B. I. Ardashev, Rostov/Don State U imeni V. M. Molotov, 5 1/2 pp

"Zhur Obshch Khim" Vol XIX, No 3

Discusses the mechanism of the synthesis of quinaldine from acetaldehyde and aniline. Submitted 8 Oct 47.

62/49T13

62/49T12

ARDASHEV, B. I.

USSR/Chemistry - Quinoline Mar 49

"Research in the Field of Derivatives of Quinoline: IV, Synthesis of Quinaldine and Certain of Its Methyl-Homologues From Aromatic Amines and Ethylene Glycol," B. I. Ardashev, Rostov/Don State U imeni V. M. Molotov, 5 1/4 pp

"Zhur Obshch Khim" Vol XIX, No 3

Synthesized quinaldine, o- and p-tolylquinaldines and 2-,6-, and 8-trimethylquinoline from aromatic amines and ethylene glycol in a H_2SO_4 medium. Quinaldine yield was 37% of theoretical. Submitted 8 Oct 47.

62/49T12

Quinoline derivatives. V. Simultaneous condensation of aromatic amines and ethylene glycol with acetone or methyl ethyl ketone. II. I. Ardashev. *Zhur. Obshchei Khim. (J. Gen. Chem.)* **10**, 1050-63(1940); cf. *C.A.* **43**, 7020g.—Condensation of $ArNH_2$, Me_2CO, and $(CH_2OH)_2$ in the presence of H_2SO_4 and $ArNO_2$ yields quinaldine derivs., formed by a reaction which apparently proceeds through ethylideneaniline derivs. which react with Me_2CO and cyclize to the final products; when MeEtCO is used in the reaction with $PhNH_2$, the chief product is 4-ethylquinaldine, indicating that the Me group of the ketone enters the reaction. $PhNH_2$ (15.5 g.), 10 g. $PhNO_2$, and 50 g. freshly distd. $(CH_2OH)_2$ were treated, after mixing, with 34 ml. concd. H_2SO_4, followed by 20 ml. Me_2CO with gentle warming on an oil bath (temp. unstated); after addn. the mixt. was refluxed gently 5 hrs. at 140-5°, cooled, dild., and steam-distd. to remove $PhNO_2$, while the residue was made alk. with 40% NaOH and again steam-distd., with the distillate being acidified by H_2SO_4, treated in the cold with 10 g. $NaNO_2$, and heated until N evolution stopped; another steam distn. and Et_2O extn. gave 5% crude quinaldine, b. 243-8°, n_D^{20} 1.58920, d_4^{20} 1.0392, and 7% 2,4-dimethylquinoline, b. 250-67°, n_D^{20} 1.59080, d_4^{20} 1.0500; the former gave the picrate, m. 190°, and the *Hg salt* (?), m. 165°, while the latter gave the picrate, m. 192°. If the heating of the initial mixt. is extended to 15-20 hrs., no quinaldine is obtained and the yield of 2,4-dimethylquinoline, b. 260-70°, rises to 25-25.2%; longer heating lowers the yield. If, after 10 hrs. of heating, the mixt. is subjected to slow distn. (2 hrs.) of the resulting H_2O (total distillate, 25 ml.), and reheated 5-6 hrs. with 10 ml. addnl. Me_2CO, a 30.2% yield is obtained. The latter procedure gave, from 17.9 g. *p*-$MeC_6H_4NH_2$, 11.5 g. *p*-$MeC_6H_4NO_2$, 50 g. $(CH_2OH)_2$, 34 ml. H_2SO_4, and 20 ml. Me_2CO (10 ml. added after the distn. step), 28%; *2,4,6-trimethylquinoline*, m. 38°; *picrate*, m. 202°; $HgCl_2$ *salt*, m. 155°. The *o*-analog gave *2,4,8-trimethylquinoline* (10%), b. 275-82°; *picrate*, m. 190°; $HgCl_2$ *salt*, m. 233°. If $(CH_2OH)_2$ is omitted in the prepn. of 2,4-dimethylquinoline (1st expt. above), the yield drops to 0.5%; if $PhNH_2$ is omitted, 10 hrs.' refluxing gives but 1 g. products, b. 70-125°, thus disproving Bayer's theory [*J. prakt. Chem.* **33**, 398(1886)] of the initial formation of $AcCH_2CH(OH)Me$ from AcH and Me_2CO. Heating 10 g. quinaldine with 30 g. $(CH_2OH)_2$, 15 g. Me_2CO, and 20 ml. H_2SO_4, 20 hrs. to 140-5° gave 0.5 g. unchanged quinaldine, some 2.5 g. tar, and but 10% of a condensation product with AcH and Me_2CO (not investigated). The procedure for 2,4-dimethylquinoline applied to a reaction mixt. contg. MeEtCO instead of Me_2CO gave 16.2% *2-methyl-4-ethylquinoline*, m. 108° (*tartrate*, m. 153°; *picrate*, m. 219°); the product of Bähr (*C.A.* **17**, 92) was apparently quite impure; the base forms a *chloroplatinate hydrochloride*, m. 278°, which forms a *dihydrate*; the *dichromate* forms yellow needles (from H_2O). The mother liquor from the prepn. yields a small amt. of *2,3,4-trimethylquinoline*, b. 262-7°; *picrate*, m. 192°; *chloroplatinate*, m. 215°.

G. M. Kosolapoff

Br. abs. A11-6 Heterocyclic

Derivatives of quinoline. VI. Solid condensation of aromatic amines. I : 2-propylene glycol, and anilines. B. L. Ardashev [with T. P. Byrina] (*J. Gen. Chem. USSR*, 1950, **20**, 487—489 [U.S. transl. 481—483]; cf. A., 1950, II, 999).—3-Methyl-, 3 : 6-dimethyl-, and 3 : 8-dimethyl-8-ethylquinoline, are synthesised from NH_2Ph, *o*- and *p*-$C_6H_4Me{\cdot}NH_2$, respectively, with propane-1 : 2-diol in H_2SO_4 in a Skraup reaction with better yields than are attainable by the Doebner–Miller method, using aromatic amines and EtCHO. 4-Methyl-, 4 : 6-dimethyl-, and 4 : 8-dimethyl-8-ethylquinoline are synthesised from NH_2Ph, *o*-, and *p*-$C_6H_4Me{\cdot}NH_2$, respectively, with propane-1 : 2-diol, and $COMe_2$, in H_2SO_4 with higher yields than in syntheses in which $COMe_2$ is not present. The synthesis of alkylated quinolines from aromatic amines, with or without participation of ketones, appears to be generally applicable to primary-secondary α-glycols.

Propane-1 : 2-diol (I), b.p. 188—190°, is obtained by the action of powdered NaOH on glycerol and is twice distilled before use. NH_2Ph, *p*-, and *o*-$C_6H_4Me{\cdot}NH_2$, and I in H_2SO_4, with $PhNO_2$, *p*-, and *o*-$C_6H_4Me{\cdot}NO_2$ as oxidants afford, respectively, 3-methyl- (67-4%), 3 : 6-dimethyl- (68%), and 3 : 8-dimethyl-8-ethylquinoline (30-6%). Dropwise addition of $COMe_2$ to a mixture of freshly-distilled NH_2Ph, propane-1 : 2-diol, $PhNO_2$, and conc. H_2SO_4, heating the mixture to gentle boiling for 10 hr., driving off the H_2O (with unreacted $COMe_2$ and some $PhNO_2$), adding more $COMe_2$ and heating the mixture for another 7 hr., cooling and working up as in the Skraup reaction, gives 4-methyl-2-ethylquinoline, b.p. 270—272°, d_4^{15} 1·027, n_D^{15} 1·5941 (*picrate*, $C_{12}H_{13}N.C_6H_3O_7N_3$, m.p. 189°; *platinichloride* $(C_{12}H_{13}NHCl)_2PtCl_6$, m.p. 219°; *palladochloride* $(C_{12}H_{13}NHCl)_2PdCl_4$, m.p. 240°). The quinophthalone base has m.p. >300°. When treated with 25% oleum and isolated as the salt of sulphonic acids, it dyes wool and silk light brown. Analogously, *p*-$C_6H_4Me{\cdot}NH_2$, I, and $COMe_2$, in H_2SO_4 using *p*-$C_6H_4Me{\cdot}NO_2$ as oxidant furnish 4 : 6-*dimethyl*-2-*ethylquinoline* (62·3%), b.p. 282—284°, d_4^{15} 1·0236, n_D^{15} 1·5889 (*picrate*, $C_{13}H_{15}N.C_6H_3O_7N_3$, m.p. 198°; *platinichloride* $(C_{13}H_{15}NHCl)_2PtCl_6$, m.p. 238°). Similarly, *o*-$C_6H_4Me{\cdot}NH_2$, I, and $COMe_2$, in H_2SO_4 with *o*-$C_6H_4Me{\cdot}NO_2$ as oxidant afford 4 : 8-*dimethyl*-2-*ethylquinoline* (68·7%), b.p. 278—280°, d_4^{15} 1·0011, n_D^{15} 1·5649 (*picrate*, $C_{13}H_{15}N.C_6H_3O_7N_3$, m.p. 147°; *platinichloride*, $(C_{13}H_{15}NHCl)_2PtCl_6$, m.p. 217°).

H. WREN.

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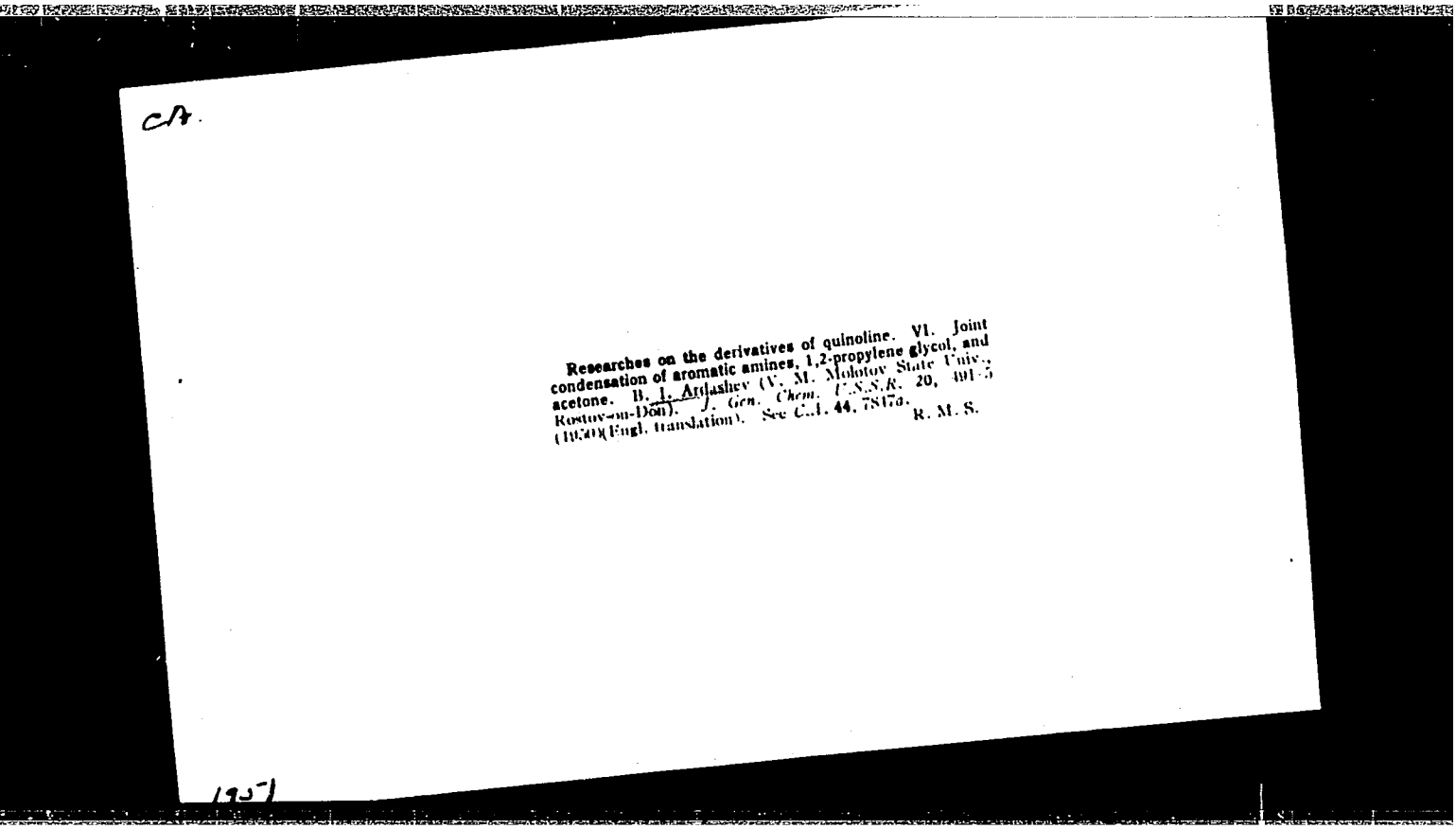
1122

Reactions of α,β-unsaturated aldehydes with aromatic amines. III. [1 : 3-bisdiphenylaminoprop-2-ene]. B. I. Arbuzov [with M. M. Kurbatov] (*J. Gen. Chem. USSR*, 1940, **10**, 482—488 (U.S. transl., 497—503)).—The product of the reaction between CH_2:CH·CHO and $NHPh_2$ is not allylidenebisdiphenylamine, CH_2:CH·CH:$(NPh_2)_2$, as described by Leeds (*Ber.*, 1882, **15**, 1189) but 1 : 3-bisdiphenylaminopropene. The reaction is formulated as $NHPh_2 + CH_2$:CH·CHO→NPh_2·CH_2·CH:CH·OH ; $NHPh_2 + NPh_2$·CH_2·CH:CH·OH→NPh_2·CH_2·CH:CH·$NPh_2 + H_2O$. Other members of the series of *tert.* aliphatic-aromatic amines may be synthesised analogously. The mechanism of the hydrolytic and thermal decomposition of diphenylaminoacrolein justifies the conclusion that it is impossible to synthesise quinoline deriv. from sec. aromatic amines in the Skraup or Doebner-Miller reactions.

Contrary to Leeds (*loc. cit.*), heating $NHPh_2$ and CH_2:CH·CHO in EtOH at 40—45° for 12 hr. gives a compound, m.p. 108—118°, in 5—10% yield. When heating is continued for more than 18 hr., the mixture turns red, apparently due to atm. oxidation. Addition of a drop of HCl causes an energetic change resulting in polymerisation. $NHPh_2$ and CH_2:CH·CHO must be used in equiv. proportions or, better, using a slight excess of aldehyde. The reactants are heated for 8—10 hr. on a boiling water-bath in a flask closed with a solid rubber stopper, fastened with wire and cemented on the top with lead putty. The flask is then placed for 4 hr. on ice and then treated with EtOH whereupon "diphenylamineacrolein" [1 : 3-bisdiphenylaminoprop-2-ene], $C_{27}H_{24}N_2$ (39·7%), m.p. 145°, separates. It gives a cherry-red solution in H_2SO_4. When heated at 270°/20 mm., it gives $NHPh_2$ and a tarry residue smelling of CH_2:CH·CHO, thus indicating the formation of diphenylaminoallene, which polymerises to a tar.

H. WREN.



CA.

Researches on the derivatives of quinoline. VI. Joint condensation of aromatic amines, 1,2-propylene glycol, and acetone. B. I. Ardashev (V. M. Molotov State Univ., Rostov-on-Don). *J. Gen. Chem. U.S.S.R.* 20, 491-5 (1950)(Engl. translation). See *C.A.* 44, 7817a.
R. M. S.

1951

CA

10

The reactions of α,β-unsaturated aldehydes with aromatic amines. III. Diphenylamineacrolein. B. I. Ardashev and M. M. Kurbatov (V. M. Molotov State Univ., Rostov-on-Don). *J. Gen. Chem. U.S.S.R.* 20, 407-9 (1950)(Engl. translation).—See *C.A.* 44, 7803i. R. M. S.

1951

ARDASHEV, B. I.

Quinoline derivatives. VIII. Synthesis of substantive quinophthalonic dyes from diamines of biphenyl series. B. I. Ardashev and Z. V. Maling (V. M. Molotov State Univ., Rostov). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 1349–54(1951); cf. *Uchenye Zapiski Rostovskogo Gosudarst. Univ.* 5, (1951); *C.A.* 44, 7847a.—Satn. of 30 ml. paraldehyde in 36 ml. ice-cooled Me_2CO with dry HCl, letting stand 1 day, addn. of the mixt. to 12.3 g. benzidine and 30 ml. concd. HCl, refluxing 5 hrs., letting the mixt. stand overnight, dilg. with 50 ml. H_2O, refluxing briefly, filtering hot, and cooling gave 26% *2,2',4,4'-tetramethyl-6,6'-biquinoline*, m. 232° (from EtOH). If the HCl stream is maintained during the heating period, 31% of a purer crude product is obtained. Similarly, [3,4-MeO(H_2N)C_6H_3]$_2$ gave 18% *2,2',4,4'-tetramethyl-8,8'-dimethoxybiquinoline*, m. 195° (from EtOH), while tolidine gave by this method 4% *2,2',4,4',8,8'-hexamethyl-6,6'-biquinoline*, m. 225°; purification by means of *o*-$C_6H_4(CO)_2O$ (Russ. patent 47,207, *C.A.* 33, 3400[9]) permitted the isolation of 51% yield of the substance, m. 220° (after washing with EtOH). From these intermediates the prepn. of biquinophthalones were obtained in 76%, 69%, and 83% yields, resp., by the method of Porai-Koshits and Kulikov (*C.A.* 32, 1458[3]). All were brown powders, which did m. 360°, partly subliming at high temp. Their sulfonation proceeds in 95% yields and they are substantive dyes, in which the introduction of Me or MeO groups deepens the color shade; the benzidine deriv. dyes deep yellow, tolidine orange-yellow, dianisidine orange.

G. M. Kosolapoff

CA

10

Acetylation of aromatic amines with acetyl chloride in the presence of sodium acetate. B. I. Ardashev and E. S. Rych (V. M. Molotov Univ., Rostov). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 1503–5(1951).—Acetylation of $ArNH_2$ with AcCl and NaOAc tried on 12 amines ($PhNH_2$, *o*-, *m*-, and *p*-toluidines, 1- and 2-$C_{10}H_7NH_2$, *m*-xylidine, *o*- and *p*-anisidine, *m*- and *p*-$C_6H_4(NH_2)_2$, and benzidine) gave the best yields of pure products without further crystn. in comparison with other methods of acetylation. Typical expt.: 18.6 g. $PhNH_2$ and 8 g. freshly fused NaOAc were treated with shaking with 17 g. AcCl; after the mixt. had cooled, diln. with 5 vols. H_2O and filtration gave directly 96% AcNHPh, m. 114°.

G. M. Kosolapoff

1952

CA

The acetylation of aromatic amines with acetyl chloride in the presence of sodium acetate. B. I. Ardashev and E. S. Bych. *J. Gen. Chem. U.S.S.R.* 21, 1043–4(1951)(Engl. translation).—See *C.A.* 46, 3013h. B. R.

CA

13

The reaction of some anils with maleic anhydride. II. I. Andashev and Z. D. Markova. *J. Gen. Chem. U.S.S.R.* 21, 1015-7(1951)(Engl. translation). See C.A. 46, 5015e. B. R.

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Chemical Abst.
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9-2-54
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(3) Chem

Quinoline derivatives. IX. Mechanism of Pictet reaction. B. I. Ardashev and B. A. Tertov (V. M. Molotov State Univ., Rostov). *Zhur. Obshchei Khim.* 22, 2200-3 (1952); cf. *C.A.* 41, 122*d*; 47, 2761*b*.—Heating alkylated acylanilines or acylated *o*-toluidines with $ZnCl_2$ leads to α- and β-substituted quinolines. The accepted mechanism of the Pictet reaction indicates the impossibility of obtaining γ-alkylated quinolines by this method; the scheme proposed involving the formation of 2-alkylindoles which then undergo ring expansion to form the quinolines. Heating 15 g. *N*-methylacetanilide and 15 g. $ZnCl_2$ 6 hrs. at 290–300°, soln. of cooled product in HCl, treatment with 40% NaOH, steam distn. and treatment of the crude bases with Ac_2O, gave an unstated yield of quinoline, isolated as picrate, m. 198°; also prepd. from 15 g. *N*-acetyl-*o*-toluidide and 15 g. $ZnCl_2$ after 6 hrs. at 290–300°, and from 15 ml. $PhNHNH_2$ and 15 ml. Me_2CO heated to 100° 1 hr., then to 290–300° with 25 g. $ZnCl_2$ for 3 hrs. Heating 15 g. *N*-ethylacetanilide and 15 g. $ZnCl_2$ 4 hrs. to 260–70° gave quinaldine, isolated as picrate, m. 190°; styphnate, m. 211°; $PhNHNH_2$ (15 ml.) and 20 ml. EtMeCO and 25 g. $ZnCl_2$ also gave quinaldine (picrate, m. 190°). Similarly *N*-propionyl-*o*-toluidine or *N*-methylpropionylaniline with $ZnCl_2$ gave *3-methylquinoline* (picrate, m. 186°; *styphnate*, m. 185°).

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Chemical Abst.
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D Chem

Quinoline derivatives. IX. Mechanism of Pictet reaction. B. I. Ardashev and B. A. Kertor. *J. Gen. Chem. U.S.S.R.* 22, 2257-9(1952)(Engl. translation).—See *C.A.* 48, 1380c. H. L. H.

ARDASHEV B.I.

Syntheses of quinolines from diethylidenearyl amines and from dieno anils. D. I. Ardashev. *Doklady Akad. Nauk S.S.S.R.* 92, 1175–8(1953).—It is pointed out that under the conditions described by Zalukaev (*Latvijas PSR Zinātnu Akad.* 1, 131(1951)) it is possible to obtain only 25–30% yields of quinaldine, instead of the reported 51%. Formation of quinaldine and its derivs. from HCl salts of $ArNHCHMeCH_2CH(NHAr)_2$ (I) gives 80–93% yields; $PhNH_3.HCl$ exerts a catalytic action and the best yields are obtained when an equimolar amt. of amine HCl salt is used. The reaction can be run in EtOH soln. with $FeCl_3$ as the oxidizing agent. From corresponding I there can be obtained 87% 8-tolylquinaldine and 90% 6-nitroquinaldine. In formation of phenylquinolines from PhN:CHCH:CHPh, and its analogs, the max. yields results from the use of 2 moles excess amine, the reaction proceeding by addn. of 2 moles of the amine at the 2 double bonds, the product then expelling 2 moles of the amine, H and forming the phenylquinoline. Addn. of an oxidizing agent aids the yield. A poor (10%) yield of 2-phenylquinoline from cinnamaldehyde and $PhNH_2$ is caused by decompn. of anil and formation of polymerization products. The anil of cinnamaldehyde treated with $PhNH_2$ yielded 2-phenylquinoline. At high temp. in weakly basic medium the cyclization of dienic anils yields γ-substituted quinolines since the intermediates cited above do not form. To 3 g. dimeric ethylideneaniline (m. 117°) was added 3 ml. concd. HCl, 3 ml. H_2O and 1.5 g. $PhNH_2.HCl$ and the mixture was heated 3 hrs. on a steam bath; treatment with NaOH, steam distn. and addn. of picric acid to the distillate gave 80% *quinaldine picrate*, m. 190°. To 40 g. 98% H_3PO_4, 14 g. *p*-$MeC_6H_4NH_2$, and 7 g. *p*-$O_2NC_6H_4Me$ kept at 150° was added over 10–15 min. 14 g. *cinnamylidene-p-toluidine anil*, heated 1 hr. at 150–60° and 1 hr. at 160–70°; heating with dil. HCl and steam distn. gave after usual treatment 47% *7-methyl-4-phenylquinoline*, b. 300–40°; *picrate*, m. 207°. Passage of 5 g. *N*-cinnamylideneaniline over Al_2O_3 in a Cu tube kept at 400–50° gave *γ-phenylquinoline; picrate*, m. 225°.

G. M. Kosolapoff

Ardashev, B. I.

The mechanism of synthesis of quinolines. B. I. Ardashev. *Uspekhi Khim.* **23**, 45-61(1954). Review with 53 references in which it is pointed out that in the Doebner-Miller synthesis the main course of reaction is the formation of dimers of ethylidenearyl amine which form yield the quinoline bases in good yields. The Doebner reaction can be employed for quinoline synthesis from diarylamines and secondary amines. The Skraup synthesis undoubtedly proceeds by direct cyclization of acrolein anil, derived from glycerol or its analogs. The addn. of the amine group to the unsatd. link of the acrolein-type unit as a 1st step in the reaction is held to be untenable. G. M. Ko'danol

USSR .

Quinoline derivatives. X. Syntheses of quinolines from bis(ethylidenearylamine). B. I. Ardashev. *J. Gen. Chem. U.S.S.R.* 24, 127-9(1954)(Engl. translation).—See *C.A.* 49, 3191*d*. H. L. H.

ARDASHEV, B. I.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 151 - 24/36

Authors : Ardashev, B. I.

Title : Quinoline derivatives. Part 10.- Synthesis of quinoline from diethylidene-arylamines

Periodical : Zhur. ob. khim. 24/1, 131-133, Jan 1954

Abstract : The derivation of quinaldine and its substitutes (yields 80-90%) from diethylidenearylamines in an acid medium as well as in an alcohol solution in the presence of ferric chloride as the oxidizing agent is explained. The catalytic effect of aniline chloride on the yield of quinaldine and its derivatives is discussed. It was found that the new method applied in the synthesis of quinolines from diethylidenearylamines is well suitable for the derivation of quinaldine derivatives from o-substituted amines, nitroamines and for the synthesis of various quinaldine derivatives obtained in low yields by means of other methods. Twelve references: 7-USSR; 3-German and 2-French (1892-1951).

Institution: The V. M. Molotov State University, Rostov

Submitted : September 4, 1953

ARDASHEV, B.I.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 151 - 25/38

Authors : Ardashev, B. I., and Tertov, B. A.

Title : Investigation of quinoline derivatives. Part 11.- Synthesis of lepidine and its derivatives from acetylated aryl amines

Periodical : Zhur. ob. khim. 24/2, 314-317, Feb 1954

Abstract : The synthesis of lepidine, 6-methyllepidine and a hitherto unknown 4,8-dimethyllepidine from acetylated aromatic amines, formaldehyde and acetone, in an alcohol solution in the presence of ferric chloride, is described. The newly developed method for the synthesis of lepidine and its derivatives was found to require comparatively little time (4 - 5 hrs) and is therefore recommended as a preparative method for the derivation of above mentioned substances. The effect of amine salt addition to the reaction mixture on the yields of lepidine products is explained. Nine references: 7-USSR; 1-USA and 1-German (1886 -1954).

Institution : The V. M. Molotov State University, Rostov

Submitted : September 4, 1953

ARDASHEV, B.I.

Name	:	ARDASHEV, B. I.
Dissertation	:	Investigations in the field of quinoline and its derivatives
Degree	:	Doc Chem Sci
Defended At	:	Min Higher Education USSR, Rostov-on-Don State U imeni V. M. Molotov, Chair of Organic Chemistry
Publication Date, Place	:	1956, Rostov-on-Don
Source	:	Knizhnaya Letopis' No 6, 1957

ARDASHEV, B. I.

Quinoline derivatives. XII [illegible] and B. A. Vertov (State Univ., Rostov). Zhur. Obshchei Khim. 26, 218-23; J. Gen. Chem. U.S.S.R. 26, 233-7(1956)(Engl. translation); cf. C.A. 49, [illegible]

Chem

[illegible] H₃PO₄ is a better reaction [illegible] synthesis of methylquinolines [illegible] with 20 ml. MeEtCO run as pre[illegible] gave 18.5% 3,4-dimethylquinoline, m. [illegible] picrate, m. 217°. Thus, acetyl-p-toluidine and [illegible] gave [illegible] 3,4,6-trimethylquinoline [illegible] acetyl-o-toluidine [illegible] 3,4,8-trimethylquinoline [illegible] acetyl-m-xylidine and MeEtCO gave [illegible] tetramethylquinoline, m. [illegible] Heating 14 g. PhNH₂, 7 g. PhNO₂ [illegible] with 26 g. cinnamalde[hyde] [illegible] gave after refluxing 15 min. in [illegible] HCl and [illegible] m. 81°; picrate, m. [illegible] toluidine 9.3%, p-anisidine [illegible] same [illegible] corresponding substituted [illegible] m-xylidine gave 15% 6,8-dimet[hyl] [illegible] which does not form a [illegible] phenylquinolines were attained from cinnamaldehyde anils; thus 18 g. p-toluidine, 7 g. p-O₂NC₆H₄Me and [illegible] H₃PO₄ heated to 150° and [illegible] then kept [illegible] gave [illegible] Similar [illegible] Me₂C₆H₃NH₂ gave [illegible]

ARDASHEV, B.I., TITOV, E.A.

and *n*-$MeC_6H_4NH_2$ gave 22% oils [illegible] form a picrate. The following yields of picrates/products were obtained from the following [illegible] 2,4-dimethyl- [illegible]

[illegible] 7.6 g diacetyltolidine, 6.1 g $(SO_3NC_6H_4OH)_2$, 9.2 g dry glycerol, 2.2 g $FeSO_4$, and 13.1 g fumed H_2SO_4 under an air-reflux condenser [illegible] at 135° for [illegible] standing [illegible]

[illegible] which after washing with [illegible] left behind 3.41 g. *tetramethyl-6,6'-biquinoline*, m. 181°, while

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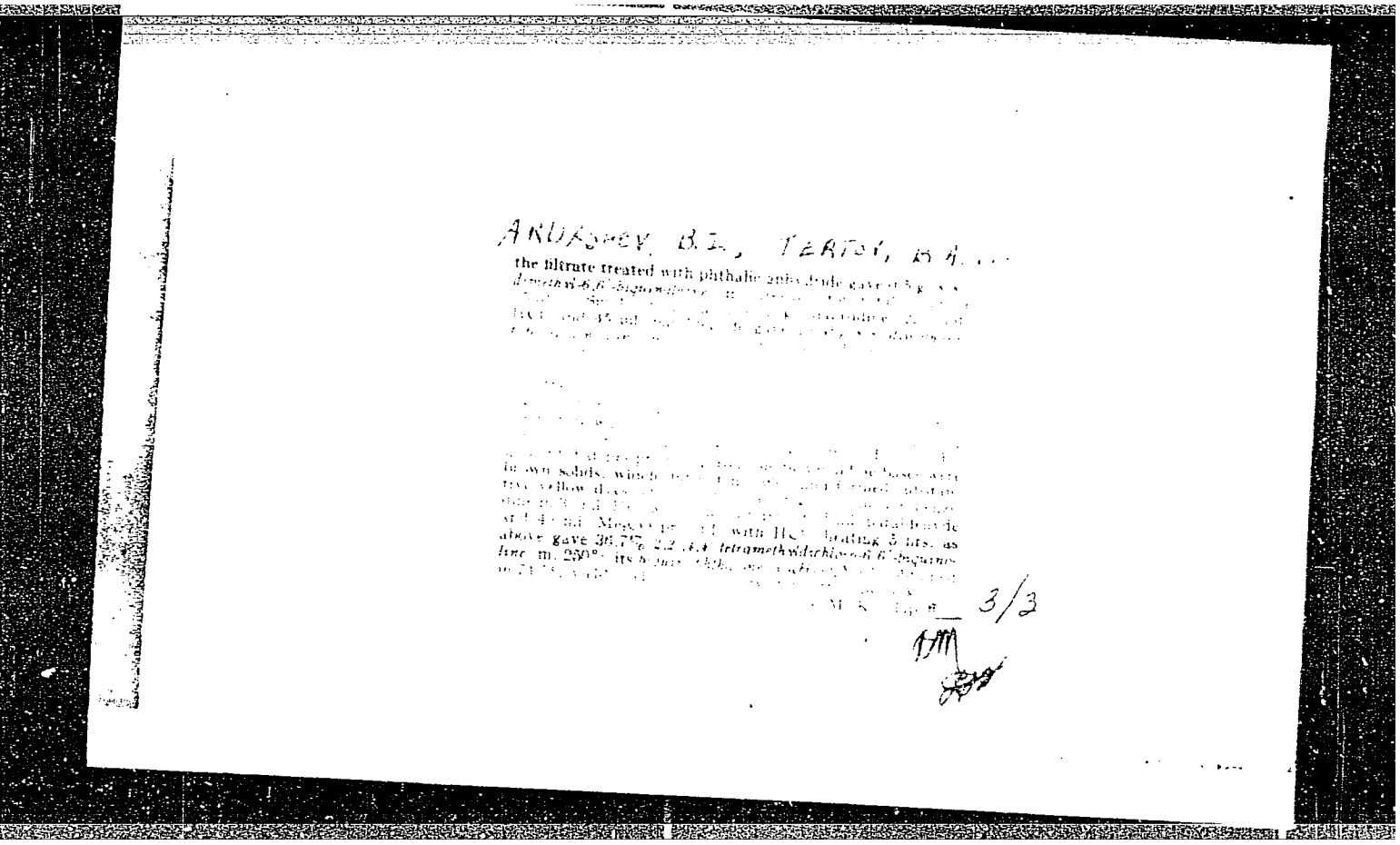


ANDERSEN, B.L., TARTAR, H.V. ...

the filtrate treated with phthalic anhydride gave ...

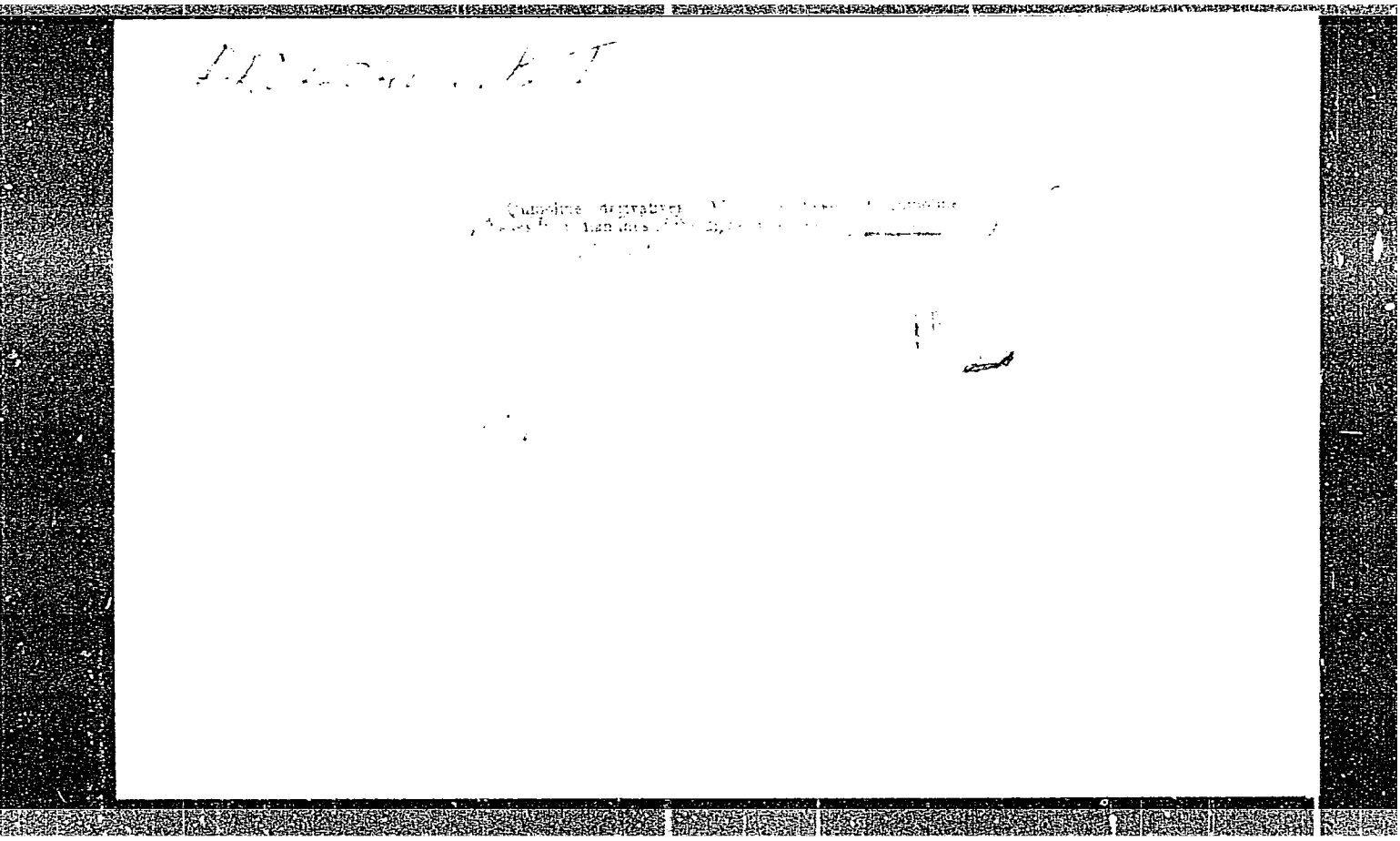
... above gave 36.7% 2,2',4,4' tetramethyldichloro-6,6'-dipyrano ...

3/3

ARDASHEV, B.I.; KOZLENKO, Yu.M.

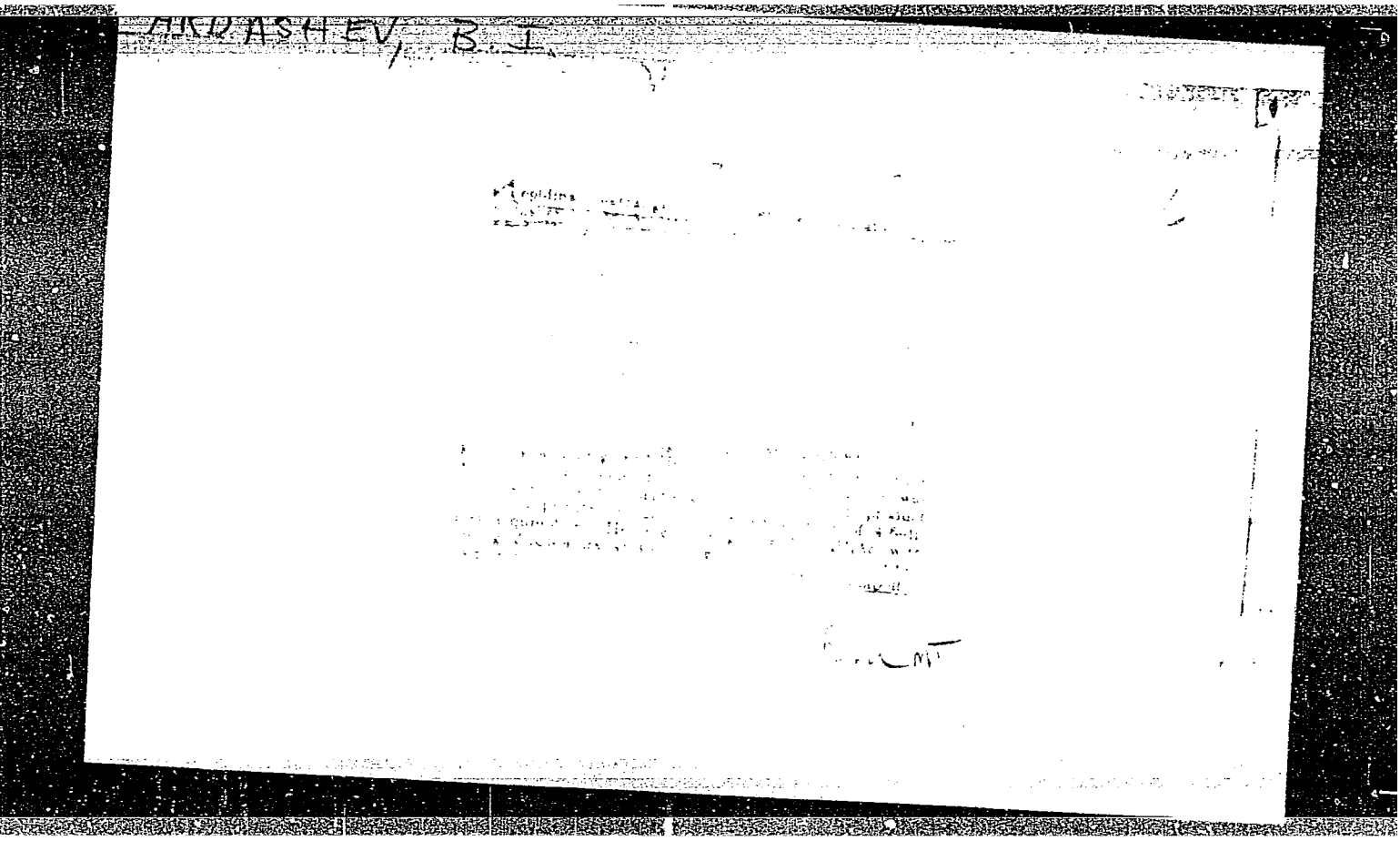
Research in the field of quinoline and of its derivatives. Part 13. Synthesis of quinoline bases from diamines of the diphenyl series. Zhur.ob.khim. 26 no.2:498-500 F '56. (MLRA 9:8)

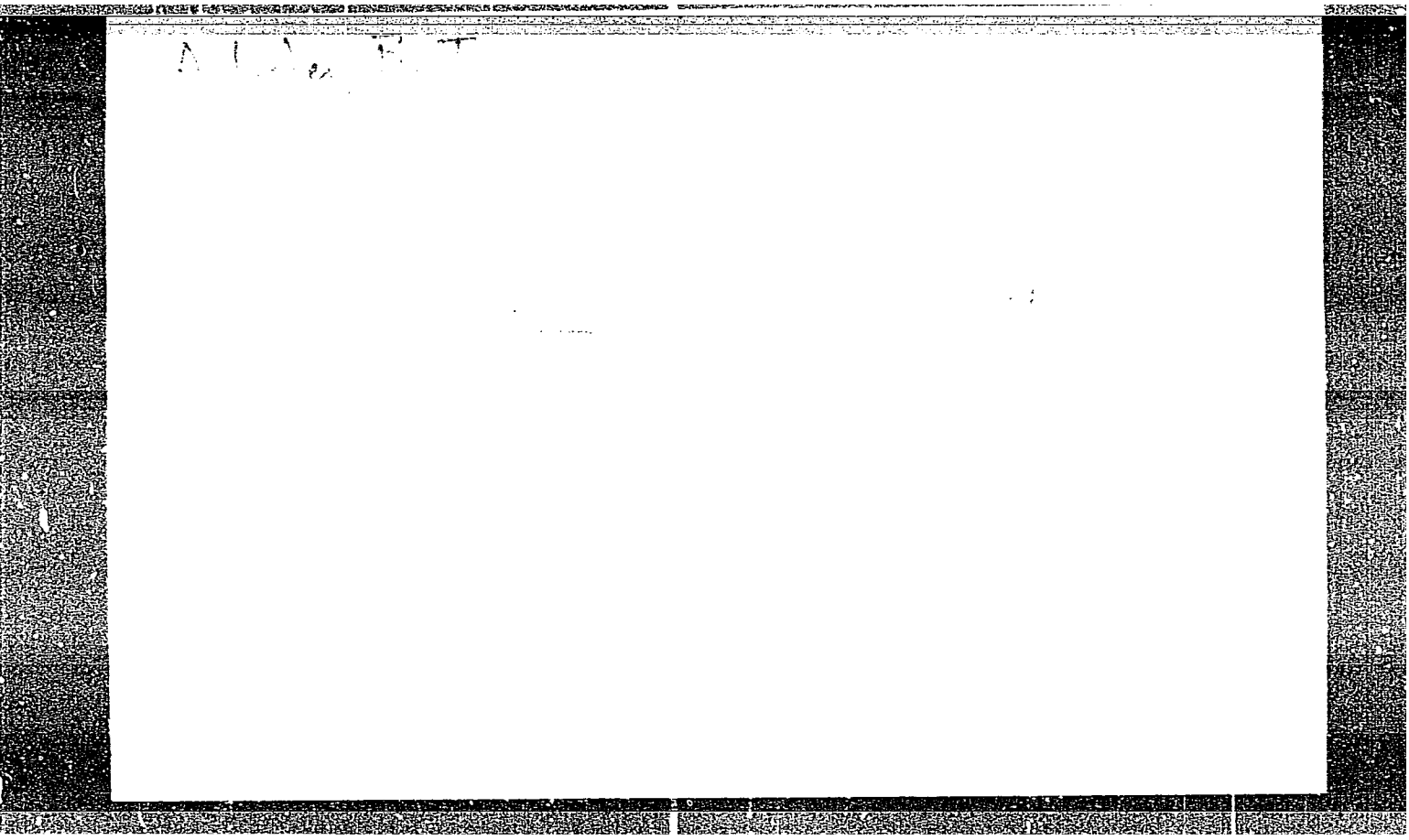
1. Rostovskiy gosudarstvennyy universitet.
(Quinoline) (Amines)



Ardashev EZ

Lepidine rearrangement of ethylacetanilides. B. I. Ardashev. *Proc. Acad. Sci. U.S.S.R., Sect. Chem.* 110, 597–9 (1956) (English translation).—See *C.A.* 51, 8095*h*.
B. M. R.





ARDASHEV, B. I.

AUTHORS: Tertov, B. A., Ardashev, B. I. 79-11-25/56

TITLE: Synthesis of the Lepidine-Bases From Arylamines and Carbonyl Compounds (Sintez lepidinovykh osnovaniy iz arilaminov i karbonil'nykh soyedineniy).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 11, pp. 3026-3028 (USSR)

ABSTRACT: Bayer's (Beyera) synthesis of lepidine from aniline, formaldehyde and acetone belongs to the organic processes which consist of many and partially very rapidly progressing side reactions. Pictet and Misner tried the same conversion with arylamines and obtained lepidine and its homologues only in a small yield of 3-5% of theory. By further tests this yield was not significantly increased. After analyzing the most important direction of reaction (formation of butanon-aniline) and a number of side directions the authors came to the conclusion that the reaction should most expediently be carried out with small concentrations of aromatic amine and formaldehyde in the reaction mixture and with a large excess of acetone. The authors found that with arylamines, formaldehyde and acetone in the presence of iron chloride and

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Synthesis of the Lepidine-Bases From Arylamines and Carbonyl Compounds 79-11-25/56

zinc chloride the yields of lepidine bases are increased to 15-37%. The method suggested can be employed in the production of considerable quantities of lepidine bases. There are 7 references, 4 of which are Slavic.

ASSOCIATION: Rostov-na-Donu State University (Rostov-na-Donu Gosudarstvennyy universitet).

SUBMITTED: November 9, 1956

AVAILABLE: Library of Congress

1. Lepidines - Synthesis 2. Arylamines - Chemical reactions 3. Carbonyls - Chemical reactions

Card 2/2

A.Rdashev B.T.

Quinoline derivatives. XIV Synthesis of lepidine bases from acetanilide and oxo compounds. B. T. Ardashev and B. A. Tertov. Zhur. Prikład. Khim. 30
C.A. 51 2784a
Me2CO 25

Distr: 4B2c(j)/4B3d/4E4j 7

Synthesis of 6-methoxyquinoline. B. I. Ardashov and V. I. Minkin. *Zhur. Priklad. Khim.* 30, [illegible] 1957. cf. *C.A.* 52, 7319*f*.—Anisidine (26 g.), 25 ml. 90% H_2SO_4, and 120 g. glycerol at 95–100° was added gradually (60–90 min.) through a reflux condenser to 22 g. nitroanisole preheated at 170°, the mixt. (b. 145–[illegible]) fluxed 4.5–5 hrs., cooled to 70–80°, and dild. with 250 ml. H_2O. It was extd. with excess C_6H_6, filtered, distd. and dissolved in Et_2O (added by 2 portions of 25 and 15 g. phthalic anhydride), yielding 64% *6-methoxyquinoline*, b_5 127–30°, b_{760} 279–84°. J. R.

SOV/156-58-3-31/52

AUTHORS: Ardashev, B. I., Minkin, V. I., Minkin, M. B.

TITLE: On the Mechanism of the Transformation of Acylated Arylamines (O mekhanizme peregruppirovok atsilirovannykh arilaminov)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 526-529 (USSR)

ABSTRACT: The mechanism of the transformation of the acylarylamines under the action of catalysts was investigated. This transformation takes place at higher temperatures in the presence of acid catalysts. The reaction of the transformation of acetanilide with the catalyst $ZnCl_2$ in an HCl current was experimentally carried out. After heating to 150-200° for 30 minutes NN'-diphenylacetamidine was formed in good yield. On a further increase in temperature this compound converts to flavaniline. The NN-diphenylacetamidine crystallyses in the form of white needles; the yield is 76 %. On the addition of anhydrous $ZnCl_2$ and after heating for several hours (5 hours) to 250°C in a weak HCl current flavaniline is

Card 1/2

On the Mechanism of the Transformation of Acylated Arylamines SOV/156-58-3-31/52

formed in a yield of about 41 %. There are 18 references, 4 of which are Soviet.

ASSOCIATION: Kafedra neorganicheskoy i organicheskoy khimii Novocherkasskogo politekhnicheskogo instituta (Chair of Inorganic and Organic Chemistry at the Novocherkassk Polytechnical Institute)

SUBMITTED: February 17, 1958

Card 2/2

5(3)

AUTHORS: Ardashev, B. I., Minkin, V. I., (Novocherkassk)

SOV/74-28-2-5/5

TITLE: Regroupings and Migrations of Acyls in the Series of Aromatic Amines (Peregruppirovki i migratsii atsilov v ryadu aromaticheskikh aminov)

PERIODICAL: Uspekhi khimii, 1959, Vol 28, Nr 2, pp 218-234 (USSR)

ABSTRACT: In spite of a large number of papers in this field, regroupings of acylated aromatic amines described in this paper have not yet been systematically dealt with in publications. By means of regrouping of acylated arylamines nitrogenous heterocyclic compounds of the quinoline and acridine series, difficultly accessible arylamino ketones and substituted aminoaryl benzoic acids a. o. can be obtained. The regrouping of acetanilide which is accompanied by a shift of the acetyl group toward the aromatic nucleus, was detected by Fischer and Rudolph Ref 2). The regrouping of acylanilides in the presence of acid catalysts is usually not terminated by the formation of arylamino ketones. This fact is explained by an increased reactivity of the substances formed which readily enter into condensation and cyclization. During reaction in

glacial acetic acid by the influence of sirupy phosphoric acid aromatic amino ketones in the form of acetyl derivatives can be separated (Ref 13) the latter of which have been formed by reacylating in acetic acid. Due to the volatility of o-arylamino ketones with steam the isomers can be easily divided. O-arylamino ketones are extremely reactive compounds. If subjected to strict conditions of regrouping of acylanilides they can readily transform into different nitrogenous heterocyclic compounds. The investigation of the regrouping mechanism presents great difficulties. Besides, one and the same regrouping may take place according to various mechanisms which is conditioned by the used catalyst. In this case all regroupings of acylanilides may be divided into three kinds: 1) regrouping with $AlCl_3$; 2) regroupings with phosphoric acids; 3) regroupings with $ZnCl_2$. Nevertheless the regrouping mechanism is insufficiently investigated and requires further investigations. The regrouping of alkylacylanilides taking place in polar solvents and in the presence of ionizing catalysts is probably a heterocyclic reaction. Results obtained

by the regrouping of different alkylacylanilides are given in Table 1 . The reaction is bribing in its effect due to the accessibility of the initial compounds, however, requires further investigation. On heating acylated diarylamines or a mixture of diarylamines and carboxylic acids, anhydrides or acid chlorides in the presence of $ZnCl_2$ at 200-300° a shift of the acyl residue from nitrogen into the ortho-position toward the amino group and a cyclization into corresponding mesosubstituted acridines take place. Acridines can be obtained by means of regrouping of the previously synthesized acyl derivative of the diarylamine. However, the yield remains unchanged as in the case of the main reaction (Refs 49, 51, 66) Chemical, physiological and other characteristics of acridines are described in detail in Albert's monographs (Refs 76, 94). The problem of the regrouping mechanism of diacylanilides cannot be considered to be solved. Some investigation results of this reaction are summarized in Table 2 . A special case is the regrouping of N-arylphtalimides taking place on its heating up to 200-225° with the alloy NaCl + $AlCl_3$. The

intermolecular nature of this reaction is obvious. In all cases investigated the reaction took place exclusively in the ortho-position to the amino group. In conclusion it may be stated that the regroupings of acyl radicals are of decisive importance to the synthesis of aromatic and heterocyclic amines which are important from a practical point of view. There are 2 tables and 117 references, 27 of which are Soviet.

USCOMM-DC-60842

ARDASHEV, B. I.

AUTHORS: Ardashev, B. I., Minkin, V. I. 79-2-59/64

TITLE: Investigations in the Field of Quinoline Derivatives (Issledovaniya v oblasti proizvodnykh khinolina). XVII. Synthesis of Some 6- and 8- Alkoxy Quinolines (XVII. Sintez nekotorykh 6- i 8- alkoksikhinolinov).

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 545-546 (USSR)

ABSTRACT: The hitherto applied methods for the synthesis of alkoxy quinolines according to Skraup (ref. 1), Kon (ref. 4), Das et al. (ref. 6) were deficient. With a quiet reaction a good yield was achieved on the occasion of gradual addition of a mixture of amine, sulfuric acid, and glycerin to the oxidizing agent which was heated to a temperature higher than that of the reaction temperature. This method was suggested by Walter (ref. 10) and recommended by Manske (ref. 11). The present method has some advantages in comparison to the alkylation of the 8-oxyquinoline according to Bedall (ref. 12) or Fränkel (ref. 13) or to the synthesis with arsenic acid according to Knüppel (ref. 14, 15). In the present work 6- and 8- methoxy quinoline as well as 6- and 8-ethoxy quinoline were synthesized according to the above mentioned alterated method. The yields amounted to 38 - 64%, the specific data of the products are given.

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Investigations in the Field of Quinoline Derivatives. XVII. Synthesis of Some 6- and 8- Alkoxy Quinolines. 79-2-59/64

There are 17 references, 3 of which are Slavic.

ASSOCIATION: Rostov State University (Rostovskiy gosudarstvennyy universitet).

SUBMITTED: January 31, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Ardashev, B.I., Minkin, V.I. SOV/79-28-6-52/63

TITLE: Investigations in the Field of Quinoline Derivatives (Issledovaniya v oblasti proizvodnykh khinolina). XIX. New Method of Synthesis of Quinoline by Regrouping Acylated Arylamines (XIX. Novyy metod sinteza khinolinov peregruppirovkoy atsilirovannykh arilaminov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1578-1581 (USSR)

ABSTRACT: In the investigation of the lepidine regrouping of the ethyl acetanilides the authors carried out regroupings of a series of alkyl formalinides which take place on milder conditions in a nitrobenzene medium. The existing data permit to make the assumption that the catalytic regroupings of the alkyl acylanilides make possible the synthesis of various quinoline derivatives and that it appears as one of the few quinoline syntheses which have general character. The mechanism of the investigated regrouping differs from that of the reaction according to Pictet (Ref 12) (Pikte) and is not connected with any cleavage of the alkyl radical from nitrogen, as the α,β-dimethyl indole to be expected in

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Investigations in the Field of Quinoline Derivatives. XIX. New Method of Synthesis of Quinoline by Regrouping Acylated Arylamines

this case in the conversion with hydrochloric aniline does not permit lepidine to be formed. As was found in the first stage of the reaction N,N'-diaryl-N-alkyl acylamidine is formed which is obtained on heating (150-160°) the amine salts with their acyl derivatives (Refs 16,17). The best yields of the products were actually obtained in using the amine salt at equivalent ratios. At higher temperature the amidines regroup to the anil of the corresponding o-aminocarbonyl compound which then cyclizes into the quinoline (see scheme). The investigated reaction in principle appears as a new method of the synthesis of quinoline. There are 1 table and 29 references, 13 of which are Soviet.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-na-Donu State University)

SUBMITTED: March 25, 1957

SOV/ 79-28-6-32/63

Investigations in the Field of Quinoline Derivatives. XIX. New Method of Synthesis of Quinoline by Regrouping Acylated Arylamines

1. Quinolines--Synthesis

Card 3/3

MINKIN, V.I.; ARDASHEV, B.I.

New means of preparing quinaldine bases and N-arylquinaldine salts by condensation of aryl amines with aldehydes. Part 20. Zhur.ob.khim. 28 no.9:2556-2560 S '58. (MIRA 11:11)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Quinaldine compounds) (Condensation products (Chemistry))

AUTHORS: Ardashev, B. I., Minkin, V. I. SOV/79-29-1-43/74

TITLE: Investigations in the Field of Quinoline and Its Derivatives (Issledovaniya iz oblasti khinolina i yego proizvodnykh). XXI. Simultaneous Condensation of Aryl Amines With Hydracrylic Aldehyde (XXI. Sovmestnaya kondensatsiya arilaminov s gidrakrilovym al'degidom)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 200 - 202 (USSR)

ABSTRACT: In a previous paper (Ref 1) Ardashev showed that hydracrylic aldehyde (β-oxypropionaldehyde) is capable of reacting in the Skraup reaction beside acrolein. In this connection it was of interest to investigate the reaction of some aromatic amines with this aldehyde in order to obtain quinolines. Apart from one patent by Chichibabin (Ref 5) this reaction has hitherto remained unknown. It was found that already under the usual conditions of the Skraup synthesis, i.e. in the case of addition in drops of aldehyde to the reaction mixture at 120-140° quinoline is obtained in a yield of 15%. On using a lighter oxidizing agent, nitrobenzene sulfuric acid and by carrying out the reaction in a diluted solution

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Investigations in the Field of Quinoline and Its Derivatives. XXI. Simultaneous Condensation of Aryl Amines With Hydracrylic Aldehyde

SOV/79-29-1-43/74

with hydracrylic aldehyde, quinolines are obtained in yields up to 50%. Thus, the conclusion can be drawn that in the usual Skraup reaction with glycerin (also acrolein if no glycerin is available) part of the reaction is the reaction with hydracrylic aldehyde formed from glycerin or acrolein. This reaction was extended to diaryl amines. E.g. n-phenyl quinoline salt was synthesized from diphenyl amine. Thus, it was determined that it is also possible to introduce secondary amines into the modification of the Skraup synthesis, with hydracrylic aldehyde. Among some ways of reaction of this aldehyde with aryl amines which lead to quinolines the most probable one is shown in the scheme. There are 10 references, 7 of which are Soviet.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnical Institute)

SUBMITTED: November 21, 1957

Card 2/2

5(3)
AUTHORS: Minkin, V. I., Ardashev, B. I. SOV/79-29-4-18/77

TITLE: Investigations in the Field of Quinoline and Its Derivatives (Issledovaniya iz oblasti khinolina i yego proizvodnykh). XXIII. A New Method of Synthesis of Quinaldine Compounds and N-Aryl Quinaldine Salts (XXIII. Novyy sposob polucheniya khinal'dinovykh soyedineniy i N-arilkhinal'diniyevykh soley)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1129-1132 (USSR)

ABSTRACT: The quaternary quinoline salts with an aryl radical on the nitrogen are important as initial products for the synthesis of cyanine dyes and photosensitizers (Ref 1). The best accessible substances of the quinoline arylates synthesized according to references 2 - 5 are the N-aryl quinaldine salts which are obtained according to Skraup (Ref 5). All synthesis methods known so far have the general disadvantage that they are little suitable for the introduction of higher fatty aldehydes into the reaction with diaryl amines. In connection with the above-said results the authors used the variation of quinaldine synthesis earlier devised by them (Ref 7) for

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the purpose of synthesizing some hitherto unknown 2,3-dialkyl quinoline arylates from diaryl amines and higher fatty aldehydes (Ref 7). This synthesis is based on the separate performance of two steps of development: 1) On the formation of the dimers of vinyl diphenyl amine, which possibly exhibit cyclic structure (Ref 8), and 2) on their dehydrogenation to the quinoline derivatives. The first step is carried out in neutral, the second in acid medium. The formation of the N-aryl-2,3-dialkyl-quinoline salts can be illustrated in connection with the previously suggested scheme (Refs 7, 9) according to the given scheme. The yield of the reaction products in the form of their perchlorates is 20 - 65 %. One molecule of quinoline arylate is formed, accordingly, from 2 molecules of the initial diaryl amine. The primary aromatic amines in the form of their acyl derivatives yield, under equal conditions, also quinaldine products, probably according to the above scheme. The reaction described is of general importance. There are 11 references, 10 of which are Soviet.

Investigations in the Field of Quinoline and Its Derivatives. XXIII. A New Method of Synthesis of Quinaldine Compounds and N-Aryl Quinaldine Salts

SOV/79-29-4-18/77

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute)

SUBMITTED: January 14, 1958

Card 3/3

5(3) SOV/79-29-9-53/76

AUTHORS: Ardashev, B. I., Tertov, B. A.

TITLE: Investigations in the Field of Quinoline and Its Derivatives. XXIII. N-Aryl Lepidinium Salts

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 3050-3052 (USSR)

ABSTRACT: The rare papers published on the subject of quaternary N-aryl salts of quinoline and its derivatives are mentioned (Ref 1), and the papers byG.T.Pilyugin et al. (Refs 2-5) are discussed in detail. The authors found that according to the method devised by them (Ref 6) diarylamines condense jointly with formaldehyde and ketones at normal pressure (Ref 6) under the formation of N-aryl lepidinium salts in a yield of 15-19% (Scheme). It is interesting to note that the introduction of nitrobenzene into the reaction mass increases the yield by four to five times. There are 6 Soviet references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute)

SUBMITTED: July 22, 1958

Card 1/1

S/079/60/030/05/53/074
B005/B125

AUTHORS: Minkin, V. I., Ardashev, B. I., Takhadadze, K. A.

TITLE: The Condensation of Diaryl Amines With Isovaleraldehyde

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1647-1649

TEXT: The synthesis of several previously unknown derivatives of N-aryl-2-isobutyl-3-isopropyl quinolines is described in the present report. The derivatives named were isolated in the form of their perchlorates. The production was carried out according to the Doebner-Miller reaction by the condensation of secondary aromatic amines with the aldehyde of the iso-valeric acid. The mechanism of this reaction was already investigated previously (Refs. 1, 2). The authors assume that the ring closure in asymmetrical diaryl amines occurs towards the more strongly nucleophilic aryl group. This assumption is in accord with the data of G. T. Pilyugin (Ref. 4). The reaction according to Doebner-Miller was also applied to secondary aliphatic-aromatic amines. The N-methyl quinaldinium perchlorate formed in negligible amount in the corresponding reaction of the methyl aniline. The formation of this product can be explained by the decomposition

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of the intermediately forming dimer of the vinyl methyl aniline under the separation of methane (vide also Refs. 8, 9). The schemata of the formation of the normal reaction product and the by-product mentioned are given. The reaction worked out by the authors can be carried out on the one hand with various aromatic and aliphatic-aromatic secondary and acylated primary amines, and on the other hand with various aliphatic aldehydes; and it can generally be used for the synthesis of arylates and alkylates of quinaldine and of 2,3-dialkylquinoline. Nitrobenzene or another polar solvent can be used as a solvent. o-Nitrodiphenylamine, 2,4-dinitrodiphenylamine, and N-phenylanthranilic acid form no quinolinium salts, since these amines are too weakly basic. Also indole forms no quinolinium salt. All of the syntheses carried out are thoroughly described in the experimental section. The yield, melting point, and chlorine content are given for each synthesized product. The influence of the solvent on the yield of N-phenylquinaldinium perchlorate is given in a summary. There are 9 references, 6 of which are Soviet.

The Condensation of Diaryl Amines With Isovaleraldehyde

S/079/60/030/05/53/074
B005/B125

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-na-Donu State University)

SUBMITTED: May 4, 1959

Card 3/3

ARDASHEV, B.I.; MINKIN, V.I.

Quinoline and its derivatives. Part 27: Joint condensation of glyceraldehyde and 3-phenylglyceraldehyde with aromatic amines. Zhur. ob. khim. 30 no.12:4005-4007 D '60. (MIRA 13:12)

1. Novocherkasskiy politekhnicheskiy institut.
(Glyceraldehyde) (Amines)

ARDASHEV, B.I.; KAGAN, Ye.Sh.

Preparation of lepidine and its derivatives from aromatic amines and Mannich bases. Zhur. ob. khim. 34 no.7:2228-2230 Jl '64 (MIRA 17:8)

1. Novocherkasskiy politekhnicheskiy institut.

KAGAN, Ye.Sh.; ARDASHEV, B.I.

Phenyllepidinium perchlorate. Metod. poluch. khim. reak. i prepar. no.11:99-101 '64. (MIRA 18:12)

1. Novocherkasskiy politekhnicheskiy institut. Submitted April 1964.

ARDASHEV, B.I.; KAGAN, Ye.Sh.

Lepidine. Metod. poluch. khim. reak. i prepar. no.11:63-64 '64.
(MIRA 18:12)

1. Novocherkasskiy politekhnicheskiy institut. Submitted April, 1964.

ARDASHEV, B.I.; MINKIN, V.I.

6-Methoxyquinoline. Metod. poluch. khim. reak. i prepar. no.11:80-81 '64. (MIRA 18:12)

1. Novocherkasskiy politekhnicheskiy institut. Submitted April 1964.

ARDASHEV, B.P., inzh.; MATHKEVICH, V.A., inzh.; SIDOROV, B.K., inzh.

Lumber carriers of the Vytegrales type. Sudostroenie 31 no.1:5-12 Ja '65. (MIRA 18:3)

ARDASHEV, G. R.

"Investigation of the Effect of Wear of Grousers on the Traction Properties of a Wheel Tractor." Sub 4 Dec 51, All- Union Sci Res Inst of Mechanization and Electrification of Agriculture.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

1. ARDASHEV, G. K

2. USSR (600)

4. Tractors-Motors

7. Flushing out lubrication systems of tractor motors. MTS 12 no.11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ARDASHEV, G.R., kandidat tekhnicheskikh nauk.

Wear of lugs and its effect on the traction of wheeled tractors. Trudy VIM 23:3-41 '56. (MLRA 9:11)
(Tractors)

ARDASHEV, Gavriil Romanovich; BAZAROV, I.V.; MIKHAYLOV, I.N.; MORSHIN, A.V.; POLOTSKIY, I.V.; RUDENKO, A.I.; SITNIKOV, A.P.; SPERANSOV, N.N.; KRYUKOV, V.L., red.; DEYEVA, V.M., tekhn.red.

[Maintenance of tractors and agricultural machinery] Tekhnicheskoe obsluzhivanie traktorov i sel'skokhoziaistvennykh mashin. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1961. 470 p. (MIRA 14:4)

(Tractors--Maintenance and repair)
(Agricultural machinery--Maintenance and repair)

ARDASHEV, G.R.; MIKHAYLOV, I.N.; ZAMORSKIY, V.V.; DOVGICH, I.A.; SEVERNEV, I.M.; DOMAN'KOV, V.M.; Prinimali uchastiye: FEDOSOV, I.M.; KRIVENKO, P.M.; KUDRYAVTSEV, P.R.; BARABANOV, V.Ye.; BRIL', E.P., red.; PARSHIN, V.G., tekhn. red.

[Technical maintenance of the KD-35, KDP-35, and T38 tractors] Tekhnicheskii ukhod za traktorami KD-35, KDP-35 i T38. Moskva, Biuro tekhn.informatsii GOSNITI, 1962. 153 p. (MIRA 16:10)

1. Russia 1923- U.S.S.R.) Ministerstvo sel'skogo khozyzystva. 2. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka (for Ardashev, Mikhaylov, Fedosov, Krivenko, Kudryavtsev, Barabanov). 3. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Zamorskiy Dovgich). 4. Belorusskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Severnev, Doman'kov). (Tractors--Maintenance and repair)

ARDASHEV, Gavriil Romanovich, kand. tekhn. nauk; MIKHAYLOV, Igor' Nikolayevich, inzh.; MORSHIN, Aleksandr Vasil'yevich, kand. tekhn. nauk; SOLODENIKOVA, G.A., red.

[Technical maintenance of the machinery and tractor fleet] Tekhnicheskoe obsluzhivanie mashinno-traktornogo parka. Moskva, Kolos, 1965. 526 p. (MIRA 18:7)

SAMOYLOVICH, D.M.; ARDASHEV, I.V.; BARINOVA, Ye.S.

Sensitivity specks of emulsions sensitized subsequently by gold and triethanolamine. Zhur. nauch. i prikl. fot. i kin. 10 no.1:16-22 Ja-F '65. (MIRA 18:4)

SAMOYLOVICH, D.M.; ARDASHEV, I.V.; BARINOVA, Ye.S.; RYABOVA, R.V.; YUKHNOVSKAYA, O.P.

Investigating the chemical ripening of type R emulsions. Zhur. nauch. i prikl.fot. i kin. 8 no.5:359-361 S-O '63. (MIRA 16:9)

24.6610

S/020/62/145/003/008/013
B125/B102

AUTHORS: Samoylovich, D. M., Barinova, Ye. S., and Ardashev, I. V.

TITLE: Possibility of changing emulsion sensitivity by irradiation

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 3, 1962, 557 - 559

TEXT: The sensitivity of an emulsion can be very strongly affected by irradiation in the presence of free hydrogen ions. 400μ thick samples of P(R) type emulsion without backing were immersed in solutions of various acids (of pH values from 1 to 5). One hour later they were exposed to γ-rays and neutrons from a Po-Be source, stored for 12 hours at pH 7, and then developed. The density of the proton and electron tracks is constant at pH 3, and depends neither on the kind of acid used nor on the pH value of its solution. Decreasing the pH value from 3 to 2 greatly reduces the density of the tracks, and relativistic particles are not recorded at all. Exposing the same emulsion to 8.6 BeV protons from the Dubna synchrocyclotron and treating it for two hours with sulphuric and nitric acid does not appreciably reduce the density of the tracks of relativistic particles down to pH2. Between pH2 and pH1 the relativistic

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tracks decrease very rapidly in density and number. The tracks due to nuclear decay resist treatment of the latent image with acid solutions of pH1. After irradiating the layer, (third series of experiments), the density of the recoil proton tracks is unchanged down to pH2 and reduced by about 10% at pH1. The reversible reduction of sensitivity in the presence of hydrogen ions depends on the competitive capture of electrons by Ag^+ ions and mobile free H^+ ions during the formation of the latent image. The irreversible reduction of sensitivity depends on the release of atomic silver in the acids. This irreversible process is infinitesimal when the emulsion is sensitized with gold. There are 2 figures.

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